DOCUMENT RESUME

ED 054 328 VT 010 963

AUTHOR	Preitz, Clarence H.
TITLE	Goals and Basic Units of Instruction for Treatment Media Courses for the Preparation of Occupational Therapists.
INSTITUTION	Wayne State Univ., Detroit, Mich.
SPONS AGENCY	Social and Rehabilitation Service (DHEW), Washington, D.C.
PUB DATE	Dec 69
NOTE	103p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$6.58
DESCRIPTORS	Bibliographies, College Curriculum, *Curriculum Guides, *Instructional Materials, Interviews, *Occupational Therapists, *Occupational Therapy, *Professional Education, Records (Forms)

ABSTRACT

The specific problem of this research was to ascertain and establish the essential major goals for university level treatment media courses for the professional preparation of occupational therapists and to determine basic units of instruction to contribute to the fulfillment of such goals. Course outlines and a syllabus were researched to determine the prevailing goals for treatment media courses. A list of fundamental activities which was formulated from textbooks used to support and supplement instruction, became part of the Interview Schedule used to gather data in selected facilities throughout the nation. This instrument was pretested in a pilot study. The data gathered by observing 445 patients and interviewing 143 therapists provided guidelines for formulating a list of proposed goals and basic units of instruction. A panel of consultants then reviewed this list to determine that they were realistic and attainable for occupational therapy students. Finally a Commission evaluated each goal and basic unit of instruction as to its essentiality for organizing and structuring course materials in treatment media. This report is a summary of a dissertation which is available as ED 038 517. (Author/BC)

ED054328

150

GOALS AND BASIC UNITS OF INSTRUCTION FOR TREATMENT MEDIA COURSES FOR THE PREPARATION OF OCCUPATIONAL THERAPISTS

An Occupational Therapy Research and Demonstration Project

Conducted at

Wayne State University

Detroit, Michigan 48202

by

Clarence H. Preitz

Research Associate

Under the Direction of

H. Barbara Jewett, O.T.R.
Chairman and Associate Professor
Division of Occupational Therapy, College of Medicine

and

G. Harold Silvius, Director
Chairman and Professor
Department of Industrial Education, College of Education

This investigation was supported, in part, by Research Grant No. RD2837-G-68 from the Division of Research and Demonstration Grants, Social and Rehabilitation Service, Department of Health, Education, and Welfare, Washington, D.C.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

VT010363

ED054328

ACKNOWLEDGEMENTS

Many people have contributed through their interest, criticism, and advice to this investigation. Without the excellent cooperation extended to the research staff by the officers of the American Occupational Therapy Association, department chairmen of accredited curricula, teachers of treatment media, as well as hospital administrators, patients, and practicing therapists, this study would not have been possible.

PREFACE

This study was funded jointly by the Social and Rehabilitation Service, Department of Health, Education, and Welfare, Washington, D.C. 20201 and Wayne State University, Detroit, Michigan 48202. It was a joint effort between the Division of Occupational Therapy, College of Medicine, and the Department of Industrial Education, College of Education.

The data collected during the site visit phase of the study were shared and analyzed in a doctoral dissertation titled, *Goals and Basic Units of Instruction for Treatment Media Courses for the Preparation of Occupational Therapists.* Copies of the dissertation are available from University Microfilms, Ann Arbor, Michigan.

Clarence H. Preitz

ABSTRACT

The specific problem of this research was to ascertain and establish the essential major goals for university level treatment media courses for the professional preparation of occupational therapists and to determine basic units of instruction that may be employed in these courses to contribute to the fulfillment of such goals.

Course outlines and a syllabus were researched to determine what were the prevailing goals for treatment media courses. A list of fundamental activities was formulated from textbooks used to support and supplement instruction. This list became part of the Interview Schedule used to gather data in selected facilities throughout the nation. This instrument was pretested in a pilot study.

The data gathered by observing 445 patients and interviewing 143 therapists provided guidelines for formulating a list of proposed goals and basic units of instruction. This list of proposed goals and basic units was reviewed by a Panel of Consultants to determine if they were realistic and attainable for occupational therapy students.

The results of the Panel's reaction were refined and submitted to an Advisory Commission. It was the Commission's responsibility to react to each goal and basic unit of instruction as to its essentiality for organizing and structuring course materials in treatment media.

TABLE OF CONTENT

ACKNOWLEDGEMENTS i
PREFACE ii
ABSTRACT iii

Introduction 1
  Background Information on Project 1
  Statement of the Problem 1
  Review of Related Literature 1
  Related Competencies 2
  Major and Minor Crafts 2
  Clinical Management 3

Analysis of Curriculum Materials to Determine Goals and Content 3
  Course Content 4
  Major Crafts Courses 4
  Minor Crafts Courses 4

Brief Description of the Setting 5
  Population and Sample 5
  Data Collection and Analysis 6
  Selection of Urban Centers 6
  Criteria Used to Select Cities for Site Visits 7
  Site Visits 7
  Clerical and Electronic Processing of Data 7
  Orientating Therapists to the Research 8
  Systematic Observation of Patients 8
  Interviewing Therapists 8
  Educational Background of Therapists 8
  Experience in the Profession 9
  Medium Activities Used with Patient Treatments 9
  Treatment Objectives 10
  Activity Substitution 10
  Media Most Frequently Used in Practice 10
    Textiles 10
    Woods 10
    Leather 11
    Clay 11
    Paper 11
    Metals 11
    Plastics 11
Organizing the Operations most Frequently Used in Practice into Basic Units of Instruction 12
  Specific Behavioral Objectives for Instructional Units 12
  Design of Basic Units of Instruction 12
  Format of the Basic Units of Instruction 13

Panel of Consultants 14

Reaction of Panel of Consultants to Interpreted Goals 15
  Panel's Reaction to Goal Concerned with Teaching Skills 15
  Panel's Reaction to Degree of Competency Goal 15
  Panel's Reaction to Related Technical Information Goal 16
  Panel's Reaction to the Goal Concerned with Ancillary Responsibilities 16
  Panel's Reaction to the Goal Concerned with Adaptive Devices 16
  Objectives for the Basic Units of Instruction 17

Reaction of Panel of Consultants to Basic Units of Instruction 18
  Panel's Reaction to Requisitioning and Mechanical Drafting Units 18
  Basic Units of Instruction for Textiles 18
  Basic Units of Instruction for Wood 18
  Basic Units of Instruction for Leather 19
  Basic Units of Instruction for Clay 19
  Basic Units of Instruction of Metals 19
  Basic Units of Instruction for Paper 20
  Basic Units of Instruction for Plastics 20
  Time Required to Teach Basic Units of Instruction 20

The Advisory Commission 21

Reaction of Advisory Commission to the Proposed Goals 21
  Reaction to Goal Concerned with Teaching Skills 22
  Reaction to Degree of Competency Goal 22
  Reaction to Safety Goal 22
  Reaction to Goal Concerned with Related Technical Information 22
  Reaction to the Goal Concerned with Ancillary Responsibilities 23
  Reaction to the Goal Concerned with Adaptive Devices 23
  Reaction to Use-Limitation-Value Goal 23

Reaction of Advisory Commission to Proposed Basic Units of Instruction 24
  Advisory Commission's Reaction to Behavioral Objectives 24
  Requisitioning Unit 24
  Textile Units 24
  Metal Units 25
  Clay Units 25
  Read a Working Drawing Unit 25
  Wood Units 25
  Leather Units 25
  Plastic Units 26
  Advisory Commission's Reaction to the Title for Proposed Goal Statements 26

Selected Conclusions, Observations, Recommendations, and Implications 26
  Conclusions of the Research 27
  Observations 28
  Recommendations 29
    to the Profession 29
    to Curriculum Directors 30
    for Further Research 31

Implications .31

Recommended Goals in Treatment Media Courses in Terms of Occupational Therapy .32

Basic Units of Instruction .33

Appendixes

A. Participating Department Chairmen of Accredited Curricula .47
B. Treatment Centers Selected for Site Visits .56
C. The Panel of Consultants .83
D. The Advisory Commission .85
E. Tables .89

Bibliography .95

INTRODUCTION

Background Information on Project

The American Occupational Therapy Association (1963), supported by a research grant from the National Foundation for Infantile Paralysis, conducted a curriculum study concerning the preparation of occupational therapists.

As a result of this study and the recommendation of the Council on Medical Education of the American Medical Association, in December, 1965, the time allotted in accredited programs to treatment media courses was reduced from twenty-five to a minimum of nine semester hours. However, they did not selectively identify those aspects of treatment media courses which should be taught within the reduced time period.

Statement of the Problem

The specific problem of this research study was to ascertain and establish the major goals for treatment media college courses, and to determine the basic units of instruction most essential within a nine semester hour limited course of study.

Review of Relevant Literature

A review of the literature indicated that little research had been done to establish goals and basic units of instruction for treatment media courses.

The final report of the American Occupational Therapy Association (1963), although it surveyed curriculum practices and instructional patterns, did not attempt to establish goals or instructional units for the nine semester hours recommended for treatment media courses.

Jackman (1961) completed a doctoral dissertation which investigated what industrial arts competencies were employed by therapists in Minnesota, and Thiel (1959) researched the contributions industrial arts teacher education can make to the education of occupational therapists. These researchers did not consider the goals and essential units of instruction for treatment media courses.

Krusen (1964), and Dunton and Licht (1957) state that the goal of rehabilitation is to restore the handicapped individual to the fullest physical, mental, social and vocational usefulness of which the patient is capable.

West (1959), Rusk (1964), Pattison (1922), and the American Occupational Therapy Association (1960) further attempt to define the therapists's role as it applies to two classes of patients–physical and mental. However, Dunton (1947) and Aitken (Soden, 1949) clarify this form of definition to indicate that it is usually not completely separable. In this report, for statistical purposes only, patients participating will be classified as physical dysfunctional or psychosocial dysfunctional. For the purpose of this report, physical dysfunction is defined as the impairment of any part of the body which limits normal activities required for daily living. Similarly, for the purpose of the report, psychosocial dysfunction is defined as the impairment of mental processes of the patient in adjusting to daily interactions with other individuals.

It is the role of the physician in occupational therapy to refer the patient for treatment, prescribe the physical and psychological objectives to be achieved; indicate precautions to be observed, and to review the progress of the patient at frequent intervals.

The therapist plans, executes and reports to the physician concerning the progress of the treatment. For this reason, the purposeful activities that are treatment media of the therapist are essential to the treatment objectives.

The therapists, in the role of a teacher of treatment media, should employ the same teaching skills that any qualified professional teacher would use in a similar teaching situation. The therapists must develop proper attitudes on the part of the patient toward treatment, motivate the patient to want to participate in the activity used as treatment, and maintain interest of the patient in treatment.

Related Competencies

But in order for the therapist to be an effective teacher of treatment media, the therapists must have some knowledge of the physical characteristics and the limitations of the medium being employed, an understanding of the principles of the tools being utilized, as well as attitudes to be developed, such as safety precautions. These essential items of information, which are cognitive and complement manipulative skills, are referred to as related competencies for the purposes of this report.

Fryklund (1965) refers to related competencies as auxiliary knowledge or the conceptions involved in performing an activity. In Fryklund's word, related competencies

> . . . are defined as items of auxiliary knowledge that are part of every operation [defined as activity in this report] and must be included when teaching the operation.
>
> These items of knowledge and performance, which in combination make the operation should not be separate from each other.

Many of the tools and activities that are available in a clinical environment are designed for craftsmen who are well. Before these tools or activities can be used with patients, therefore, they must be modified or adapted for the use of the individual who is dysfunctional.

Minor and Major Crafts

As a result of the library research, it was established that there was a gross discrepancy which existed between the terminology used by writers in defining, describing and discussing activities, and the terminology employed by accredited schools in describing their therapeutic or activity courses. For the purposes of this report, minor crafts are defined as those crafts which require a minimal amount of skill to perform, require a minimum amount of instruction for a person to learn the activity, and can be completed successfully in a relatively short period of time.

Activities like metalworking, jewelry making, printing, leatherworking, woodworking, and weaving are classified as "crafts" in the professional literature, but colleges and universities in their catalogs categorize these activities as "major crafts." For this reason, the term "major crafts" is used in this report to differentiate these activities from the minor craft activities.

The numerous activities used to work a particular medium which can be used with a patient, through the course of his treatment, may be classified as belonging to one of these materials: clay, leather, metals, paper, plastics, textiles, or wood.

The reasons why therapists select one activity as opposed to another for patient's treatment program has been explained by Haas (1946):

> There are many reasons for selecting certain activities now freely used as treatment. Some are more valuable because their techniques require a little or no modifications to adapt them as useful tools in the hands of the therapists. Other activities have been selected because their techniques are quite flexible and permit much modification. These, therefore, can be used to meet a wide range of needs.

Writers in industrial education describe skills at several different levels–appreciation level, use level, and acceptable occupational level (Silvius and Bohn, 1961). For the purpose of this report, use level of skill is defined as the degree of competency a student preparing to become a therapist should acquire with hand tools and machine tools from educational experiences in treatment media courses.

Clinic Management

In organizing, administering, and maintaining an occupational therapy clinic there are administrative and ancillary responsibilities which must be performed by the therapist if the therapist is to offer the most efficient service to the patient and to the institution.

For the purpose of this report, administrative responsibilities are considered as those responsibilities upon which an effective functioning department depends, are performed by a therapist, and are directed and concerned with the organization and management of the clinic.

Ancillary responsibilities, too, are essential responsibilities which augment administrative duties. They can be categorized under three broad headings: procuring of equipment and supplies, maintaining equipment, and clinic-school relations.

Also, planned preventive maintenace should be part of every occupational therapy clinic.

ANALYSIS OF CURRICULUM MATERIALS TO DETERMINE GOALS AND CONTENT

An analysis of the curriculum materials and the college catalogs indicated treatment media courses can be classified under two generic titles, major crafts or minor crafts.

Fourteen of the twenty accredited curricula gave woodworking the highest rank as a title for their crafts courses; ceramics, twelve; weaving, ten; needlecraft, six; arts, drawing, design, leatherworking, metalworking, jewelry making, and printing in two accredited programs each.

Minor crafts were taught in multi-media laboratories from a minimum of two to a maximum of fifteen activities per course. These courses were generally taught by an occupational therapist. A multi-media laboratory is described as laboratory (shop) where two or more major or minor crafts activities are taught concurrently.

Two types of outlines were received: detailed and skeletal. Detailed outlines included objectives for the course; course content including listing of instructional units and suggested projects; and resource materials such as text and reference books. Skeletal outlines included only the major blocks of activities students were expected to learn. Of the seventy-five course outlines analyzed, forty-six were classified as detailed and twenty-nine as skeletal.

Teachers of treatment media were most concerned with having their students acquire as many skills as possible while enrolled in their courses. All seventy-five curriculum materials studied listed an objective directed at having students develop a degree of skill.

Technical information received much less emphasis than did the teaching of basic skills. Of 204 objectives reviewed, only forty-seven referred to technical information. In addition, only thirty-six objectives referred to safety although this is stressed in the professional literature.

Maintenance and care were listed only twenty-seven times as a course objective.

The professional literature is extensive concerning the role of the therapist as a teacher of the ill. However, actual treatment media courses list teaching skill as an objective only seventeen times out of the 204 course objectives analyzed.

Course Content

Objectives supply criteria to guide curriculum decisions on what to cover, what to emphasize, content selected, and which learning experiences to stress. To determine content, additional analysis was made of materials received.

Major Crafts Courses

The analysis of each course outline and syllabus to determine content for major crafts courses indicated the activities in these courses were structured so that each student constructed a series of individual projects. The projects that the student made became progressively more difficult, from simple to complex, in proportion to the amount of time the student was in a course. The making of a project provided for a continuous introduction of new skills coupled with meaningful repetition of skills previously introduced. This procedure emphasized skill development and also integrated technical information topics in a logical order with skills taught. This analysis also revealed that teachers responsible for teaching major crafts courses gave little attention to teaching their students the teaching strategies used to instruct a learner.

Major activities are units of work which involve preparing, forming, assembling, and finishing of a medium, and are involved in making a project. The definition of the term "project" used in the report is "the making of a purposeful article selected by the learner (patient), and may involve a single activity or a combination of activities to complete." The project is a means to an end.

Minor Crafts Courses

Course outlines for minor crafts courses were also analyzed to determine course content.

This analysis of these course outlines indicated these courses were planned in three supportive phases. The first phase provided the student with the opportunity to develop additional use level of skill in working a variety of media, and to reinforce previously acquired skills. The second phase provides the student with the opportunity to learn the teaching strategies used in demonstrating an activity. The third and last phase provided the student with the opportunity to learn to analyze an activity to determine its applicability with the ill.

A closer analysis of the teaching phase of these courses illustrated the occupational therapy student acquired teaching skills in the following manner: each student was allowed to select from a list of activities one that was of interest to him. The student was expected to become proficient with this activity, to analyze the activity for use with the ill, and to demonstrate the activity before the class.

This procedure has both its advantages and disadvantages. The two major advantages are: (1) students are exposed to a wide variety of media and activities which may be used in a treatment setting, and (2) although considered limited, students are given the opportunity to acquire teaching strategies used in teaching. The major disadvantage, which is also listed as an advantage, is that students are exposed to a wide variety of activities and, because of this and the limitations of time, they are not permitted to actively participate in a hands-on demonstration. Consequently, these students develop an appreciation of the skills for the activity and not the degree of skill required of a therapist.

In summary, the documentary analysis of the curriculum materials indicated a rank order for the explicit and implicit objectives listed by teachers of treatment media to be:

1. The student, after completing an educational experience, should have acquired as many hand tool skills as possible.

2. The student should have developed an understanding of the technical information associated with a wide variety of media and activities.

3. The student should have developed safe attitudes toward the use of hand tools and machine tools and their application with activities.

4. The student should have developed skills associated with maintenance and care of equipment that may break-down or malfunction.

5. The student should have learned some of the strategies used in teaching an activity to a learner.

Brief Description of the Setting

The section of the *Registry* (American Occupational Therapy Association, 1968), entitled, "Geographical Listings of Hospitals, Institutions or Agencies with Occupational Therapy Departments Including Clinical Affiliation Centers for Occupational Therapy Students," although not a composite list of all treatment centers in the nation with occupational therapy departments, does list 324 treatment centers which employ therapists who are listed in this document. Of the 324 treatment centers listed, only 145 are recognized for clinical affiliation. From the 145 centers listed as clinical affiliation centers, thirty-two were selected for site visits. The centers selected met the following criteria:

1. The occupational therapy department of the center was staffed by a registered occupational therapist.

2. The treatment center served students from accredited schools as a student affiliation center.

3. The treatment center was recognized by the American Occupational Therapy Association.

Of the thirty-two centers selected for site visits, fourteen were general hospitals which treated acutely ill patients whose dysfunction was either physical or a personality-type mental illness. Six centers selected treated only chronically ill psychiatric patients. Other centers included five pediatric hospitals for physically dysfunctional or psychosocially dysfunctional children of all chronological ages from infancy to late adolescence. Five rehabilitation institutes were included, four of which treated patients with some form of residual physically disabling illness, with the remaining one treating patients who were suffering from some form of acute or chronic mental illness. Two centers specialized in treating patients who were hospitalized with problems associated with aging.

Population and Sample

The population of this study was composed of four distinct and discrete groups. One population included the staff members of the thirty-one accredited collegiate institutions in continental United States offering a curriculum in occupational therapy. Selected persons in these accredited institutions were invited to participate. These were: (1) Occupational Therapy Department Chairmen, and (2) those teachers responsible for teaching treatment media courses.

Twenty-six of the thirty-one department chairmen of accredited curricula indicated definite interest and willingness to participate by sending a list of 101 names and addresses of teachers of treatment media.

Fifty-nine, or 73.7 percent, of the eighty teachers of treatment media from the twenty participating colleges and universities furnished seventy-five course outlines and only one syllabus for review. No courses of study were received. For a complete listing of participating department chairmen, the reader is asked to turn to Appendix A.

A second population consisted of patients in the facilities visited who had been assigned by a physician to a therapist for treatment. From this population, a sample of four hundred and forty-five patients were observed, for whom occupational therapy had been prescribed, and who were being treated in the clinic by a registered therapist, or by a certified occupational therapy assistant under the supervision of a registered therapist. These patients of both sexes represented stages in a wide range of human growth and development, from infancy through geriatrics. Of the 445 patients observed, 233 were female and 212 were male. The illnesses from which these patients were dysfunctional were mild to severe, from acute to varying degrees of chronicity that prevented the patient from functioning normally. Of the 445 patients observed, 192 were classified as physically dysfunctional. These included thirty-one paraplegic patients, thirty-two hemiplegic patients, seventeen quadriplegic patients, and nine orthopedic patients. The remaining 253 patients were psychosocially dysfunctional.

Therapists who had responsibility for teaching and supervising patients working with a selected medium and activities in sites visited constituted the third population. Of the 191 therapists employed in the treatment centers visited, 143, or 74.9 percent, participated in the investigation by responding to questions on the Survey Instrument. Four of these therapists were male and were either civil servants practicing in a Veterans Administration Hospital or commissioned officers with the United States Army Medical Service Corps.

The fourth population included members of the Committee on Basic Professional Education of the American Occupational Therapy Association. From this population a stratified random sample was taken using the procedure recommended by Dixon and Massey (1957) and included eight occupational Therapy Department Chairmen and eight representatives from the Clinical Council of the schools–divided equally between psychiatry and physical disabilities.

Data Collection and Analysis

A pilot study, conducted in the Province of Alberta, Canada, used facilities and patients not involved in the subsequent major investigation. These patients were of varying age groups suffering from some degree of physical or psychosocial dysfunction. They were observed when they reported to the therapists for treatment as they were performing fundamental activities involving media. The pilot study was conducted (1) to formulate a list of activities that were being used by patients as activity in their treatment programs, (2) to determine if the Interview Schedule was feasible as a data gathering instrument, (3) to determine if direct observation of the patient's behavior through systematic observation was the most efficient, economical, and expedient method to collect data concerned with frequency and use of the various media and activities used with treatment, (4) to determine if the questions in the Interview Schedule were properly formulated to full communicate the intent of the question to the interviewee, and (5) to determine whether revisions were necessary in the phrasing and sequencing of questions of the Interview Schedule before being used in the major investigation.

Each question of the Survey Instrument was reviewed and analyzed with the major advisers of the investigation and needed revisions were made.

Selection of Urban Centers

To establish geographic areas, the United States was divided into eight parts. This was accomplished by using the 40th parallel as a North-South bisector and selecting the 84th meridian as the line of demarcation for the East and Central regions. The 96th meridian was used as the dividing line between the Central and Mountain regions, and the 116th meridian was selected as the line that separated the Mountain from the Pacific region.

Criteria Used to Select Cities for Site Visits

These were the criteria used for the selection of sites:

1. The urban center selected had to be within the service area of a college or university with an accredited occupational therapy curriculum which may or may not use the treatment centers in the city with the school's clinical affiliation program.

2. According to the most recent statistical data reported by the United States Bureau of Census (1964) the urban center selected had to have a population density exceeding 750,000 people.

3. According to the statistical tables published by the Bureau of Census (1962) the urban center selected had to include inhabitants from all races and ethnic backgrounds.

4. According to the statistical tables of the Bureau of Census (1962) the urban center selected had to have a diverse economic base to include professional, service, and manufacturing industries.

An urban center in each geographic area was selected as a site. These cities were: New York City (10,694,633 in the Northeast); Washington, D.C. (2,001,897 also in the Northeast); Chicago (6,220,913 in the North Central); St. Louis (2,060,103 in the South Central); Houston (1,243,158 in the South Mountain region); in the North Pacific area, Seattle (1,107,213), and San Francisco (2,783,359 in the South Pacific region). Miami in the Southeast region was also selected but upon the recommendation of the President and the Director of Professional Educational Services of the American Occupational Therapy Association, Boston in the Northeast was substituted since Miami met only the first and second criteria.

Department chairmen knowledgeable about the treatment centers in their geographic areas furnished lists of treatment centers with which their schools maintained clinical affiliation. These lists included names and addresses of responsible administrators and therapists directing each center's occupational therapy program. The lists included fifty-five treatment centers from which thirty-two were selected for site visits.

Site Visits

Visits to each geographic area were planned so that the researcher would spend five full working days in each city conducting the data collecting phase of the investigation. Site visits to treatment centers in each city were structured so that the researcher was in each center for one full, eight-hour working day, observing patients working with the various media used in their treatment programs and interviewing therapists.

On the fifth day, the researcher selected from the previously visited centers one which had a large patient and therapist population, in an attempt to establish a consistency for the frequency of use for the media and activities used in treatment. The rationale for using this procedure was to determine if media used by therapists in treating the same patient differed from day to day or in a period of days; to increase the total range of media used with patient treatment by involving more patients thus involving a true, unlimited sample of patients; and to interview therapists who were not previously interviewed.

Clerical and Electronic Processing of Data

Clerical processing of data involved disassembling the Activity Analysis, reassembling and checking these sheets for accuracy, and mailing all instruments from the centers visited to Computing and Data Processing Center, Wayne State University. These data were place on 80 column IBM cards, verified, and electronically processed. The computer read-out sheet indicated the frequency with which each medium was used and the number and percentage of patients who used the activities to work a selected medium.

Orientating Therapists to the Research

During orientation periods–which averaged twenty minutes–the following parameters for the study were presented: staff therapists were informed that the study was delimited to patients working with media and activities, and only these patients would be involved in providing data for the study; to collect the necessary data for the Activity Analysis segment of the Survey Instrument, the researcher would move about the clinic and observe patients as they received treatment; and, to prevent the patients from becoming apprehensive or feeling threatened, each therapist was asked to make a list of patients, and to include on this list the activity performed by the patient and the medium the patient used the day of the researcher's visit.

Basically, the list served two purposes: (1) to verify patient observations concerning the medium and the activities the patient used with treatment; and (2) as a mnemonic device, to aid the therapist in responding to questions designed to elicit information concerning the patient and the patient's dysfunction.

Systematic Observation of Patients

It was not feasible to record the observed data directly on the Activity Analysis (illustrated in Appendix B) since the therapists thought it might disturb the naturalness of the situation. Therefore, significant key words were written on a small sheet of paper. Key words consisted of the medium and the activities each patient was using. During the interview each list made by the researcher was compared with the list made by the therapist for accuracy when these data were transferred to an Activity Analysis.

Interviewing Therapists

The non-directive type of interview was used during interview sessions. This represented an attempt to achieve a climate in which the interviewer could encourage elaboration of the interviewee's response and in which spontaneity could be encouraged. Each interview consisted of two phases. During the first phase of the interview, the therapist was given a copy of the Interview Schedule (illustrated with the Survey Instrument in Appendix B), asked to read each question silently, and then respond after the qustion was read aloud by the researcher. Responses made to each question were recorded by the interviewer. The second phase of the interview was to secure from each therapists responses to questions on the Activity Analysis. Responses to these questions provided data which included the medical background of the patient, the medium, the activites, the treatment objective, as well as a substitute activity which could be used with the patient. The list of activities a patient performed and which was made by the therapist was compared for accuracy with the list made by the researcher. If these lists were congruent, a "1" was marked in the appropriate data column of the Activity Analysis for the observed activity. Other activities performed prior to the site visit and which were verified by the therapist as being completed by the patient, were marked with "2's."

It was found during the early phase of the data collecting process that chronically ill long term patients, a dysfunctional patient who has been hospitalized longer than two years, because of their extended period of hospitalization, had experiences with every media and activities available in the occupational therapy clinic. The extent of these experiences necessitated a minor modification in the phrasing of question eighteen of the Activity Analysis. In its original form this question read: "18. Why wasn't this alternate activity used with this patient?" To make this question applicable with these patients, the phrase "at this time" was added to this question. In interviewing therapists responsible for treating chronically ill patients, question eighteen was rephrased to read, "Why wasn't this alternate activity used with this patient, at this time?"

Educational Background of Therapists

Of the 143 participants, 106 were graduated after 1958, representing 74.1 percent of the sample. The remaining thirty-seven graduate between 1932 and 1958.

In the sample interviewed, there were no earned doctoral degrees; 11 or 7.7 percent held master's degrees; 121, or 84.6 percent held bachelor's degrees; 8 or 5.6 percent held diplomas, and 3, or 2.1 percent held bachelor's degrees in another discipline with additional course work required for certification as occupational therapists.

Treatment media courses where these therapists learned manipulative skills are illustrated in Table 1. (See Appendix E)

Experience in the Profession

Of the 143 therapists interviewed, 120 considered themselves to be clinicians who devoted full-time to treating patients.

Data from Table 2, found in Appendix E, reveal that of the 143 therapists participating, 140 had experience as clinicians. Of the remaining three who did not have clinical experience, two had accepted administrative positions immediately after registration; the other had become engaged in occupational therapy research.

From a synthesis of data from the library research, the analysis of the curriculum materials; and the analyzed data collected with the Survey Instrument, the following goals for treatment media courses were formulated:

> A goal concerned with teaching skills:—To provide the student the opportunity to acquire and develop the teaching skills needed to teach a learner the diverse array of skills necessary to safely manipulate the hand and power tools used to work a medium by teaching the skills to a peer who has not learned to use these tools.
>
> A degree of competency goal:—To teach a [illegible] level of skill to the occupational therapy student to safely manipulate the hand tools and machine tools used with a diverse array of media to cut, shape, form, or assemble a medium used as treatment with patients in an occupational therapy clinic.
>
> A goal concerned with related technical information:—To provide the student with instruction in the basic related technical information and the technical terms used to describe tools, materials, and processes needed to make professional judgments in selecting a medium and describing the medium to the patient or to other professional personnel of the treatment team.
>
> A goal concerned with ancillary responsibilities:—To acquire an understanding of the processes used in reconditioning tools by having the student recondition screw drivers and edge tools, and to learn the concepts used in ordering replacement tools, equipment, or supplies for an occupational therapy clinic.
>
> A goal concerned with providing the student with educational experiences to learn how to make adaptive devices:—To provide the student with experiences to develop the ability to design adaptive devices and to adapt tools to the physical needs of the patient by making modifications or adaptations to existing hand tools available in the shop.

Medium Activities Used with Patient Treatment

In its original form, the Activity Analysis, which was open-ended, listed fifteen discrete activities which could be used with cane, clay, leather, metals, paper, plastics, textiles, and wood in treating patients. An additional thirty-four activities were identified during the observation of patients. This was verified by the therapist, and recorded on the Activity Analysis. These Forty-nine activities, placed on a continuum, are representative of activities that require a minimum number of tools, equipment, and physical energy on the part of the patient to complete. At the other extreme are activities that require a maximum number of tools, equipment, and expenditure of physical energy to perform. An example of the former would be oil painting, while the latter is represented by woodworking.

Data in Table 3, included in Appendix E, illustrate that Woodworking, Leatherworking, Mosaics, Ceramics and Weaving, Knitting, Toy Making, and Copper Tooling were the activities most frequently used with treatment. Three hundred and twenty-five patients, or 73.0 percent, of the sample used these ten activities. Table 3 also indicates two new materials which were not listed on the Interview Schedule–Earths and Rubber–were identified but since these involved only three patients, they are not considered essential to this report.

Treatment Objectives

To determine the major objective therapists had for using a particular activity with a patient, they were asked to select one objective from the twelve listed on the survey instrument and which, in turn, coincided with the treatment objective written by the patient's physician on the referral or the prescription. During interviewing sessions, therapists treating psychosocially dysfunctional patients stated that the list of objectives identified on the survey instrument were primarily for physically dysfunctional patients, and found it difficult to categorize their objectives under those listed. In such cases they formulated additional objectives while responding to the question.

There were thirty-nine additional treatment objectives listed by therapists, in addition to the twelve originally identified on the survey instrument. Therapists indicated that their major objective for using a particular activity with 114 patients was "As a supportive measure." Other treatment objectives used with twenty-five or more patients were: "Maintain, develop, or improve coordination," forty-nine patients, or 11.0 percent of those in the study; "Maintain or increase muscle strength," thirty patients, or 6.4 percent; "Socialization," thirty patients, or 6.4 percent; "Develop work tolerance," twenty-five patients, or 5.6 percent of the patient sample. These five objectives were used with 248 patients, or 55.7 percent of the patients.

Activity Substitution

Table 4, see Appendix E, indicates the alternate activities which therapists stated could have been used with patients in this sample, but were not selected by the patients or were not recommended by the supervising occupational therapist.

Media Most Frequently Used in Practice

Table 5, as part of Appendix E, presents comprehensively the frequencies with which each medium was used with dysfunctional patients in the process of rehabilitation, and the selection of media made by male and female patients.

Textiles

The operations most frequently used in working textiles included those involving needlecraft which includes knitting, hand sewing, embroidery, toy making, and crocheting, employed with sixty-eight patients. Next in frequency of use were weaving activities with twenty-three patients. Those involved in rugmaking were used with only four patients. Other activities identified with textiles as a treatment medium were yarn doll, six patients; weave (in and out), nine patients; Turkish knotting, four patients; rake knitting, two patients; and machine sewing, one patient.

Woods

Of the 107 basic skills identified, twenty-six were observed being performed by 111 patients, and fifty-one additional activities had been completed prior to the observations.

Of the ninety-two patients who were doing woodworking, a total of forty-two used an abrasive material to sand a surface or an edge. This usually high frequency of use for sanding activities could be partly attributed to: (1) the use of kits where all that was required of the patient was to sand the various surfaces and edges, assemble the parts, and apply a finish; (2) to the number of hemiplegics who were using a weighted sanding box to sand a surface to strengthen a certain muscle group; or (3) to lower extremity paraplegics who were sanding a surface to strengthen the upper extremities for crutch walking or to propel a wheelchair. Two patients were carving wood bowls, and seventeen patients were using some form of minor woodworking craft such as decoupage, slab stick house, furniture refinishing, or wood burning.

Not one patient was seen using a wood jointer, a circular saw, or a wood turning lathe, although patients were observed using both the band saw and the Therasaw–the bicycle jig saw. The only wood joint used in assembling a kit or project was the common butt joint.

Leather

Forty-three male and twenty-eight female patients were observed using twenty of the forty-six basic skills to prepare, form, assemble, and finish leather.

Clay

Of the sixty-one basic skills classified under ceramic activities only seventeen were observed being performed by fifty-seven patients. However, twenty additional basic skills had been used by these patients prior to the observations.

Paper

Eighteen of the sixty-nine identified basic paper medium operations were being used by fifty-nine patients. Printing was used with only two and typing with twelve. The remaining fifty-one operations were not in use with these patients during the observations.

Metals

Only 4.9 percent of the sample population was observed using basic operations with metals. Of the 158 possible basic operations, only eight were in use since the activities involved assembling kits which required minimal work by patients.

Plastics

Plastics were being used as a treatment medium by only four of the 445 patients observed and involved following manufacturer's directions to assemble car kits, plastic filament flowers, and shaping acrylic plastic with sandpaper.

ORGANIZING THE OPERATIONS MOST FREQUENTLY USED IN PRACTICE INTO BASIC UNITS OF INSTRUCTION

One result from analyzing the data collected with the Activity Analysis segment of the Survey Instrument was the establishment of a frequency of use for each medium used in occupational therapy, and for the basic operations the therapist taught to the patient and used by the patient in his treatment program.

These identified activites provided a framework for integrating these operations into the basic units of instruction organized to fulfill the interpreted goals which were formulated.

For the purpose of this report, a basic unit of instruction is defined as one of a series of fundamental learning experiences which, when organized into a teaching sequence, comprises a course of study. Each unit has one or more behavioral objectives, coherence, and meaning. A specific objective is an intent communicated by a statement describing a proposed change in a learner—a statement of what the learner is to be like when he has successfully completed a learning experience (Mager, 1962). These statements of educational intent are expressed so specifically as to establish criteria for selecting and organizing what is taught (Goodlad, 1964).

Specific Behavioral Objectives for Instructional Units

The chief function of specific objectives is to guide the making of curriculum decisions as what to cover, what to emphasize, what content to select, which learning experiences to stress, and finally, what procedures to use to measure or evaluate the student's performance according to the behavioral objectives originally selected. Unless objectives are established and clearly defined, it is impossible to evaluate a course efficiently and there is no sound basis for selecting appropriate materials, content, or instructional methods.

The objectives that appeared in the prevailing courses of study and that were reviewed and analyzed were written in non-behavioral terms. While they were implicit in their content, the students had to infer or guess at what they were expected to know or do.

In *Preparing Instructional Objectives,* Mager identifies the process of preparing instructional objectives written in behavioral terms as follows:

> First, identify the terminal behavior by name; we can specify the kind of behavior which will be accepted as evidence that the learner has achieved the objective.
>
> Second, try to further define the desired behavior by describing the important conditions under which the behavior will be expected to occur.
>
> Third, specify the criteria of acceptable performance by describing how well the learner must perform to be considered acceptable (Mager, 1962).

These three elements of a behavioral objective—task, conditions, and criteria—are generally considered the bases of an instructional objective. With these elements serving as a guideline, specific behavioral objectives can be formulated which define in clear terms the terminal behavior to be exhibited by the learner at the end of instruction.

Design of Basic Units of Instruction

Before the operations that were identified in the research could be organized as content for an effective basic unit of instruction, certain guides needed to be used in selecting the operations to be integrated as content for each unit. Careful consideration was given to establishing a sequence, establishing continuity as cumulative learning, and in providing experiences to reinforce what was previously acquired. Establishing a sequence involved making decisions for arranging the content and the materials into some order of succession and to determine what continuing emphasis was to be used in the effort to relate each subsequent learning to what has been presented and what is to follow. Sequencing of content provided for cumulative progression in learning which insured continual reinforcement of that which has been acquired through practice. Continuity, repetition, and reinforcement were important considerations in organizing content for the basic units of instruction.

These operations that were identified served the following basic purposes: (1) to provide a focal point for selecting, planning, and organizing what should or should not be integrated into each basic unit of instruction as course content to fulfill the established goals, and (2) to provide a basis for selecting a project which the student could make so that the student would acquire an understanding of the basic tools, materials, and processes and develop a use level of skill with the hand and power tools used in making the selected project.

The units were designed to accommodate individual differences. That is, a student who may have had previous formal or informal experiences with the operations to work a particular medium, and after exhibiting proficiency with these skills, can proceed to the more advanced operations, or to an unfamiliar medium. The time saved in working with the familiar medium can be utilized in learning to work with an unfamiliar one, thereby maximizing learning.

The project method was selected for organizing the instructional material, the operations identified in the research for each basic unit of instruction. These projects were organized so that learning was cumulative; that is, skills that were acquired in making the first project, in a sequence of projects, would be continually reinforced as progression takes place. The student could progress from a simple project involving a few basic operations to a more complex project involving the more sophisticated operations.

It was planned that the number of clock hours for the basic units of instruction be designed for a twelve week quarter, eleven weeks devoted to teaching and the remaining week to evaluation. The course would be taught three hours per day, three days per week, for a total of ninety-nine clock hours. How these units will be organized into a course of study is left to the discretion of the department chairman, who elects to use these units, working in concert with his staff. These units of instruction when taught to students will provide the basic skills to work the media most frequently used in practice. These units are relative and dynamic, not absolute and static, and can be enriched as the individual teacher desires, providing, of course, the basic operations listed in the units are taught.

Format of the Basic Units of Instruction

Medium–the material–clay, leather, metals, paper, plastics, woods, or textiles–the student might be working within making a project.

Activity–any one of the major crafts–leatherworking, woodworking, printing, plastics, or textiles–or ceramics which is classified as a minor craft.

Suggested project–a project for a beginning student who has had no previous experience with the tools, materials, or processes used in making the suggested article.

Skills to be developed–skills, at the use level, the student should acquire from making the project.

Tools to be used–tools that are involved in preparing, forming, assembling, and finishing the project, and which the student will learn to use.

Technical terms–items of information the student must know to successfully converse with people who are knowledgeable with the tools, materials, and processes involved in making the project.

Safety–the precautions a learner is to acquire and follow in using the tools to work a medium and which should be taught to other learners.

Possible methods of presentation–a variety of suggested instructional methods which might be used in presenting the content to be learned.

Care and maintenance—the skills involved in reconditioning tools in order to have sharp tools for a functional clinic.

Suggested related technical information topics—that subject content which is cognitive and will which add meaning to a manipulative operation.

The projects for the units of instruction were selected largely from prevailing course outlines and the content of text and reference books used in treatment media courses. Projects were selected also from those that patients were observed making during site visits and, finally, the members of the Panel of Consultants and the members of the Advisory Commission were encouraged to suggest projects which could be used with the basic units of instruction.

It has been assumed that the technical terms for tools, materials, and processes, as well as the safety precautions, would be taught as an integral part of each instructional unit, not as a separate entity. It seemed essential that occupational therapy students acquire this concept while preparing for the profession and, hopefully, will use this integrated approach when teaching patients.

It was recognized that the content for the basic units of instruction contained the fundamental operations that were identified and that practicing therapists had to know. It was also recognized that the content for each basic unit of instruction could be enriched or modified as determined by the individual teaching the course. If these units are to remain dynamic and be meaningful, then they will need to be periodically revised, in terms of the prevailing needs of the profession and the changing role of the therapist.

These criteria were established for selecting the media and the fundamental operations which were included in organizing and structuring the basic units of instruction:

1. The frequency with which each medium was used by patients who participated in the investigation.
2. The frequency with which each fundamental operation was used by patients in preparing, forming, assembling, or finishing a medium.
3. The elementary operations that would appear in more advanced operations so that the learner would develop a degree of competency in making a series of projects involving these operations.

PANEL OF CONSULTANTS

With the assistance of the principal adviser six persons—three from occupational therapy education and three from medical education who were involved with or interested in occupational therapy education—were invited to serve as members of the Panel of Consultants. Individuals who served as members of the Panel are identified in Appendix C. It was the responsibility of the Panel to review the interpreted goals and the basic units of instruction to determine whether they were realistic and attainable for occupational therapy students.

Individuals invited to serve on the Panel of Consultants were contacted by mail. This mailing included a copy of the methodology of the study with specific attention called to the section and subsection of this document which fully described the role and responsibilities of the Panel. The Panel met for two days on the campus of Wayne State University.

Prior to the meeting, members were presented with working papers for their perusal and editorial comments. Each meeting was tape recorded so that the Panel could devote full time to its responsibilities, and also to have a record of the reactions and interactions of the members as the various issues were presented and discussed. These tapes were reviewed later by the researcher for his consideration and to identify significant reactions which could be included in the narrative of this document.

The Panel was divided into two work groups to review and rate the interpreted goals and basic units of instruction. Following this, the two groups were reassembled as a Panel-of-the-whole when each presented its reaction to what was being proposed and where there was opportunity for consideration of suggestions or recommendations for additions, deletions, or modifications.

Members of the Panel asked for a definition and an example to help clarify, in their minds, the term "use level of skill." The origin of this term was presented showing the differences between "use level of skill," "appreciation level of skill," and an "occupational level of skill," as these terms apply to industrial education and as defined in this research. These terms created much discussion because some of the members of the Panel were of the opinion that therapists had acquired skill at an appreciation level only. Following this interaction among the Panel members, it was agreed by consensus that therapists do have "use level of skill" with the numerous operations; and, it was recommended that the terms "use level of skill" be written into the proposed goals. It was recommended also that an operational definition for the term "use level of skill" be formulated and presented at the Chicago meeting of the Advisory Commission.

REACTION OF PANEL OF CONSULTANTS TO INTERPRETED GOALS

The major reaction of the group reviewing the goals was that all of the goals contained phrases or words which were extraneous and which had a tendency to limit the meaning of the goal or made the statement confusing.

Panel's Reaction to Goal Concerned with Teaching Skills

> To provide the student the opportunity to acquire and develop the teaching skills needed to teach a learner the diverse array of skills to safely manipulate the hand and power tools used to work a medium by teaching these skills to a peer who has not learned to use these tools.

In reacting to this goal, Group One, in its report to the Panel, stated that this goal contained words and phrases which did not add to its clarity and, because of this, tended to confuse the intent of its meaning. It was pointed out by a member of the Panel that by deleting the portion of the sentence after the phrase, "the diverse array of skills," and adding the words, "necessary to manipulate the hand and power tools to work media," that this goal could be modified and retain its original purpose–the development of the skills involved in teaching. This suggestion was accepted by all members of the Panel. There were also other suggested word deletions. To add clarity to this statement, it was suggested that the words, "teaching" and "learning" be deleted because the phrase "to teach" implies teaching, which, in turn, involves a learner.

Panel's Reaction to Degree of Competency Goal

> To teach a use level of skill to the occupational therapy student to safely manipulate the hand and machine tools used with a diverse array of media to cut, shape, form, or assemble a medium used as treatment with patients in an occupational therapy clinic.

In reacting to this statement, it was observed that this goal was multidimensional and it was suggested that it could be reworked as two separate goals. To accomplish this and still retain the basic intent of each part, it was suggested that a period be placed after the word "student." This divided the statement into two goals with one describing the degree of competency to be achieved; the other describing the attitudes the student was to develop toward safety. To make the revised goals meaningful, it was suggested that the phrase, "with the hand and machine tools used to work the various media," be inserted after the word "student." It was suggested also that the goal on safety broadly describe the attitudes toward all aspects of safety to be achieved by the student.

Panel's Reaction to Related Technical Information Goal

> To provide the student with instruction in the basic related technical information and the technical terms used to describe tools, materials, and processes needed to make professional judgments in selecting a medium and describing the medium to the patient or to other professional personnel of the treatment team.

When reporting their reaction to this statement, these educators felt that this goal, as stated, limited the therapists to discussions only with members of the treatment team. To broaden the intent of this goal, it was suggested that a period be placed after the word "processes" and the remainder of the statement omitted. By so doing, the interpretation of this goal was then changed to include the people a therapist makes contact with in performing her professional responsibilities.

Panel's Reaction to the Goal Concerned with Ancillary Responsibilities

> To acquire an understanding of the processes used in reconditioning tools by having the student recondtion screw drivers and edge tools and to learn the concepts used in ordering replacement tools, equipment, or supplies for an occupational therapy clinic.

The first reaction of the experts was that this goal was also multidimensional as it included (1) tool sharpening and (2) requisitioning procedures (both classified in this research as ancillary responsibilities). Following discussion, the group agreed, then, that this goal should be retained as a two part goal. They noted also that it described some processes involved in reconditioning specific tools. It was suggested, then, that the phrase, "by having the student recondition screw drivers and edge tools," be deleted. Panel members stated that literally interpreted the teacher of treatment media would not have to provide the student with experiences involved in reconditioning tools but only with experiences that would develop an understanding of the processes used. To negate having such an interpretation and to broaden this goal, it was suggested that the phrase, "to provide the student with experiences," be added and the preposition "to" be placed before the word "learn."

Panel's Reaction to the Goal Concerned with Adaptive Devices

> To provide the student with experiences to develop the ability to design adaptive devices and to adapt tools to the physical needs of the patient by making modifications or adaptations to existing hand tools available in the shop.

The general reaction to this particular goal was that it contained phrases which when literally interpreted could very easily change the expressed educational outcome of this statement. In its discussion, the Panel interpreted the goal to mean that the student would be responsible for designing adaptive devices and not making them. To broaden this statement, the phrase "and construct" was added so that the student would need to make the adaptive devices he designed. The therapist studying this goal in the report stated that, to her, the phrase "adaptive devices" implied that the therapist making an adaptive device may have to modify a tool or tools and, in some cases, adapt these tools to the unique needs of the patient being treated. Because of her reaction, she suggested that a period be placed after the word "patient" and the remainder of the statement be deleted. This suggestion was accepted by the Panel.

Those Panel members who were occupational therapists pointed out that few students observed how the physical properties of a material might limit its use in making an adaptive device. They stated that there is a trend where therapists are called upon to make adaptive devices and splints, particularly in centers where an orthotist is not available. They also felt that it was important for students to learn the physical properties of the more common materials used in the profession. For instance, in making an adaptive device, a non-ferrous metal might be used. How would the property of strain limit the type of bend that can be made before the metal fractures? These therapists suggested that the phrase "to develop the ability," be deleted and the phrase, "illustrating the principles of stress, tension, and strain," be substituted.

It was pointed out also that the initial statement limited the therapists to make tool and equipment modifications to meet the needs of the physically dysfunctional patients only. In practice, however, therapists working with acute and chronically ill psychosocial patients may have this responsibility, also. It was suggested that two additional phrases be added to this statement. They were: (1) "occupational therapy" and (2) "and psychosocial." The first phrase would specify the student for whom the goal was written and the second would broaden the interpretation of this statement to include all patients.

The Panel rated the revisions made to the original five goals that were presented for their consideration as being realistic for providing guidelines for treatment media courses. The revised goals were rated by the Consultants as being attainable.

Therapist members of the Panel stated that although the revised goals were tenable and viable, one additional goal was needed to roundout the educational experiences of the student. It was proposed that an additional goal be written to give direction to experiences a student would have in learning the use, the limitation, and the dollar value of tools and equipment. The proposed goal read:

> To provide the occupational therapy student with experiences in which he can learn the proper use, limitations, and value of the tools and equipment common to an occupational therapy clinic.

The reaction of the Panel of Consultants to each of the five initial goals resulted in the following goals that were refined from the Panel's reactions to be presented to the Advisory Commission for its review, rating, and reaction.

PROPOSED DEPARTMENTAL GOALS FOR TREATMENT MEDIA COURSES IN TERMS OF OCCUPATIONAL THERAPY

The institution will provide an environment designed:

To provide the student with the opportunity to acquire and develop the skills needed to teach the diverse array of skills necessary to manipulate the hand and power tools to work media.

To teach a use level of skill to the occupational therapy student with the hand and machine tools used to work the various media.

To instill in the occupational therapy student an acute sensitivity to the safety factors attendant with the use of hand tools and power tools.

To provide the student with instruction in the basic related technical information and the technical terms used to describe tools, materials, and processes.

To provide the student with experiences to acquire an understanding of the processes used in reconditioning tools and to learn the concepts used in ordering replacement tools, equipment, or supplies for an occupational therapy clinic.

To provide the occupational therapy student with experiences illustrating the principles of stress, tension, and strain, and to design and construct adaptive devices and adapt tools to the physical and psychosocial needs of the patient.

To provide the occupational therapy student with experiences in which he can learn the proper use, limitations, and value of the tools and equipment common to an occupational therapy clinic.

Objectives for the Basic Units of Instruction

The objectives that were written for each basic unit of instruction did not include criterion statements, as was pointed out by a member of the Panel of Consultants. To indicate the standard of performance the learner was expected to achieve, criterion statements were appended to each specific objective.

REACTION OF PANEL OF CONSULTANTS TO BASIC UNITS OF INSTRUCTION

As the initial drafts of the basic units of instruction were presented to the Panel it was explained that the data for these units came from the Activity Analysis which provided the content for each instructional unit. The Activity Analysis data reflected the operations performed by the patients in treatment and also what the therapist had to do and know to teach these operations to the patient.

It was ascertained that skills are like a cumulative spiral and because of this, the student must first acquire the basic skills before progressing to the more sophisticated ones. Each skill comes from a series of tasks to be taught and mastered before a skill can be acquired. It was pointed out by the members of the Panel that one of the most important concepts to be understood by a student is that skills are transferable, regardless of the medium used. Once a skill has been acquired it can be used in many diverse situations, similar to the original situation under which it was acquired.

Panel's Reaction to Requisitioning and Mechanical Drafting Units

In reacting to the units for requisitioning and mechanical drafting, the Panel rated these as realistic and attainable. These two units were accepted without change or modification.

Basic Units of Instruction for Textiles

In reacting to the instructional units for knitting, it was suggested that the mitten project be omitted since most of the operations involved in making this project (with the exception of increasing and decreasing stitches) are presented in the scarf project. This suggestion, although accepted by the Panel, was considered unacceptable to the researcher. Unless the student learns to increase and decrease stitches, the number of knitting skills the student learns are limited, which, in turn, will eventually limit the number of knitting activities available for the patient treatment.

It was suggested that the student learning the basic operations involved in making projects in knitting, embroidery, and crocheting make samples only, not a complete project. The rationale given was that the student would learn more stitches in each activity. Initially, this suggestion was accepted, but in reconsidering its implications, it was found to be unacceptable. It was finally decided that if that approach were used, the student would develop appreciation level skills, and not the desired degree of competency–use level of skill.

Basic Units of Instruction for Wood

The group working with these instructional units for woodworking suggested that the project involving curves be eliminated. They took the position that the student could conserve both time and material by using the appropriate hand tool or machine to cut radii on the corners of the rectalinear project after it was completed. It was suggested also that the carved shallow bowl project be omitted from those presented to the Advisory Commission for its reaction. The rationale given for dropping this project, which involved the use of a router, was that few therapists would have the opportunity to have this machine tool in their clinic or to teach a patient how to use a woodworking router. These suggestions were accepted and both these projects were removed from those presented to the Advisory Commission.

This group suggested also that the proposed picture frame project be removed. While the members of the Panel thought this a valid suggestion, it was unacceptable to the researcher. If this project were to be eliminated, as suggested, other instructional units would not provide the learner with the experiences which involve the tools and processes used in mitering and assembling mitered corners.

Another recommendation made by the group working on the basic units of instruction was that the circular saw and the jointer be included in the basic units of instruction for woods. The rationale given by these individuals for offering this suggestion was the therapist should be familiar with these tools, not because patients use them, but because they become important in preparing media for patients. This recommendation was not accepted by the researcher because it was not considered viable, as indicated by the findings of the research. These findings illustrate that not one of the 445 patients particpating in the research was observed using a circular saw, jointer, or wood lathe in their treatment programs. The results of the research also indicate that when paraprofessionals were available, it was their responsibility and not that of the therapist to precut material for the patients. These data are a mirror image of prevailing practice and, if the student's time is to be optimally utilized, only those basic skills which are necessary should be taught.

Basic Units of Instruction for Leather

The group working with the basic units of instruction for leatherworking, in its presentation to the Panel, suggested because of the number of similar tools and processes used in making a plain leather wallet and a carved leather wallet, that the plain leather wallet be dropped as a suggested project. This suggestion received the endorsement of the Panel. It was suggested also, and accepted, since the basic operations used in stamping leather are somewhat similar to those used in carving leather, that the belt project be omitted. This was accepted also by the Panel.

Basic Units of Instruction for Clay

Although throwing on the wheel had an extremely low frequency of use in the sites visited, an instructional unit was designed to include this process to form clay. The consultants who were therapists presented a very strong case why the potter's wheel should not be taught. When asked to substantiate their position, the following points were presented: (1) throwing on the wheel is a bilateral activity which required the patient to stand; many patients will not be able to stand; (2) it challenges the patience of a normal person because of the skills involved to raise a shape; the people who are treated often have a low tolerance of frustration; (3) the time allowed for treatment does not permit the patient the privilege of completing the project in a treatment period; consequently, what has been completed must be removed from the wheel; and (4) it is most difficult, if not impossible, to center the project on the wheel once it is removed. This unit was, therefore, removed. Because the other units included most of the major processes and the basic operations used to work clay, no substiute projects were added to the units to be presented to the Advisory Commisttee.

Basic Units of Instruction for Metals

In reacting to these basic units of instruction for metals, the experts suggested that the raised candy dish project be taken out. In substantiating their reasons for making this suggestion, they said: (1) that a project of this level of difficult and magnitude is seldom used with patients; and (2) because of the relatively short period of hospitalization for patients with an acute illness, they would not have time to complete the work. They also made the following points to support their position: (1) to make the project the patient is required to stand which limits its use with treatment; (2) there is a high noise factor as the patient shapes the metal over a metal stake with a mallet or hammer; and (3) this process of forming metal requires a considerable degree of skill and concentration. Because of these factors, it is most unlikely to be used with chronic psychiatric patients or those with a residual physical handicap. The suggestion to omit this project was accepted by the Panel.

It was recommented also that a substitution be made for the band iron project. As a replacement it was suggested that a project be used which would utilize the principles of stress, strain, and tension, particularly as they apply to aluminum and stainless steel as splinting materials. The occupational therapy student would then be aware of these principles and would employ them when designing and constructing adaptive devices for patients. This recommendation was accepted by the Panel. A quadriplegic utensil holder with clip was substituted for the band iron project. In making this particular item, the student will learn the principles of stress and strain as they apply in bending and forming ferrous and non-ferrous metals in designing and constructing assistive or adaptive devices. These principles are reinforced in a subsequent project when the student fabricates a right-hand swing spoon to fit the utensil holder. A right-hand swing spoon is an assistive device which is place in a quadriplegic utensil holder so that a quadriplegic can feed himself. This device pivots so that as it is raised from the plate it swings parallel to the floor, enabling the food to be placed in the patient's mouth.

Like the other units that were revised, the operations that were involved in making the project that was omitted were checked against the operations that would be used in making the alternate project.

Basic Units of Instruction for Paper

Because of the limited number of patients working with printing and typing activities, it was recommended that all paper units be eliminated from the research. This recommendation was accepted. As a substitute for paper, the Panel recommended that plastics be included in the instructional units presented to the Advisory Commission for its consideration. When asked to substantiate this recommendation, the group reviewing these units presented the following reasons: (1) because of the increased importance of plastics as a splinting material, the Panel felt the therapist should know the tools and processed used in making a splint; (2) the student should also learn the related technical information associated with this material and the physical characteristics of thermoplastics used for splinting; and (3) because the same tools and machines used in working woods or metals can be used also in working plastics. The cost of introducing this material into the curriculum would be minimal because additional tools and machines would not have to be purchased.

Basic Units of Instruction for Plastics

It was observed that therapists practicing in treatment centers where physically dysfunctional patients were being treated, and an orthotist was not employed, were responsible for fabricating splints for the upper extremities of a thermoplastic plastic.

Because of practical experience of some members of the Panel as clinicians, and because these members also had academic experience as occupational therapy educators, they recommended that all minor crafts activities be excluded from the basic units of instruction. They made this recommendation for three reasons: first, that the student's time should be optimally utilized in treatment media courses because of learning the requisite skills needed in the profession; secondly, that the majority of the minor craft activities can be learned as a practicing therapist after graduation; and thirdly, that one of the recommendations resulting from the 1963 *Curriculum Study* (American Occupational Therapy Association, 1963) specifically stated, "that crafts should be de-emphasized by core course teaching and be concentrated on a few major craft areas."

The proposed basic units of instruction that were recommended by the Panel of Consultants for presentation to the Advisory Commission include a unit for requisitioning and one for mechanical drafting, as well as those for textiles, wood, clay, metals, leather, and plastics.

Time Required to Teach Basic Units of Instruction

The specific problem for this research contained two interrelated subprograms. One was to establish the goals for treatment media college courses for the professional preparation of occupational therapists, and the second was to determine basic units of instruction that could be utilized in designing a treatment media course of study to fulfill the nine-hour criteria instituted by the accrediting agency.

One of the responsibilities of the Panel in reacting to the interpreted basic units of instruction was to determine if these instructional units could be taught within the framework of nine semester hours. It was the opinion of the members of the Panel of Consultants who made up the reviewing group that the time established for each project was realistic and, when the units were organized into a course of study, the total time it would take to teach all the units would be less than than established by the accrediting body.

No decision was made as to how these units would be organized into a course of study. The members of the Panel took the position that this decision should be left to the department chairman whose staff would be responsible for teaching these units.

THE ADVISORY COMMISSION

The procedure recommended by Dixon and Massey (1957) for selecting a random sample was used in selecting members to serve on the Advisory Commission. Following this procedure, the membership of the Committee on Basic Professional Education of the Association was stratified into two groups. One group included the thirty supervisors of clinical affiliation centers who were responsible for supervising affiliates from accredited curricula. From this group, a sample of four supervisors of physical dysfunctional treatment centers was taken; and a sample of four supervisors of psychiatric treatment centers was drawn. This procedure produced a list of sixteen individuals who were invited to serve as members of the Advisory Commission. Those who appeared on this list were contacted by mail. Each member who served was involved in some aspect of occupational therapy education, either as a curriculum director or as a supervisor of clinical affiliation.

Two weeks prior to the Mid-Year Meeting each member received a set of working papers. These included the operational definitions used in the research, a detailed explanation of the term "use level of skill" as it was being used in this study, the list of goals and basic units of instruction proposed by the Panel of Consultants for consideration by the Advisory Commission.

From the reaction of the members of the Advisory Commission, it was evident that the term "use level of skill" was new to their vocabulary, but when once explained it was completely acceptable to them. Prior to the time they received the working papers, these therapists did not give consideration to the various degrees of skill a learner could develop with the basic operations. Following the discussion of the definition given in the working papers for a "use level of skill," they agreed that the degree of competency that a therapist has with the numerous skills is at the use level.

Following a presentation by the researcher which fully described the various phases of the research and an explanation of the role of the Commission in the study, those participating were divided into two working groups.

REACTION OF ADVISORY COMMISSION TO THE PROPOSED GOALS

A member of each group was assigned the responsibility of acting as group-reporter when the Commission was reassembled as a total group. This person presented to the members of the Commission the criteria rating given each goal and recommendations that were made for modifying each statement.

The presentations made by each group-reporter, as they discussed each goal and presented recommendations for modifying the goal, were tape recorded. These recordings were later analyzed to identify pertinent reactions to be included as part of the narrative of this report.

Reaction to Goal Concerned with Teaching Skills

> To provide the student with the opportunity to acquire and develop skills needed to teach the diverse array of skills necessary to manipulate the hand and power tools to work media.

During the course of its deliberation, Group A asked for clarification of the phrase, "to work media." This phrase created much discussion among the members of the group as to its meaning and use. It was pointed out by the researcher that this was a generic phrase used to include the operations that were involved with the hand and power tools used to prepare, form, assemble, and finish a selected medium. Following this explanation, the members suggested that the words, "to prepare, form, assemble, and finish," be substituted for the phrase, "to work media," since it was more descriptive. This substitution clarified the intent of this statement and made its meaning more explicit.

Reaction to Degree of Competency Goal

> To teach a use level of skill to the occupational therapy student with the hand and machine tools used to work the various media.

In its presentation to the Advisory Commission, the educators working with this statement made recommendations for rewriting this goal by synthesizing it with the one directed at safety.

Reaction of Safety Goal

> To instill in the occupational therapy student an acute sensitivity to the safety factors attendant with the use of hand tools and power tools.

The tenor of the presentation made by the educators rating this statement to the Commission was "they felt that there should be a consolidation of the degree of competency goal and this particular goal; the goal giving direction to the development of the proper attitudes toward safety." These therapists felt that these two goals as a comprehensive statement would compel the teacher to treatment media to integrate safety with the tools, materials, or processes being taught. On the other hand, they were concerned that if the two goals remained independent, as the Panel of Consultants proposed, safety would not be emphasized to the degree it should. It was recommended strongly that these goals be synthesized. This recommendation was accepted by the fifteen members of the Commission.

It was recommended also, however, that before a new goal was formulated, consideration be given to deleting the phrase "occupational therapy" from the goal because it appears in the title for the goals.

The members of Group A recommended also that the word, "sensitivity" be omitted from any revised goal because of its use in psychiatry which is often misinterpreted by the layman and the word "awareness" be substituted. These recommendations precipitated discussions which tended to polarize the committee into two camps–those who represented psychiatric treatment centers and who supported the recommendation, and those from treatment centers for the physically disabled and who were opposed to the recommendation. To bring the groups together in their thinking, the researcher suggested that this goal be revised with the word "sensitivity" simply omitted. This approach was acceptable so it became the responsibility of the reporting group to rewrite this goal. And, after several unsuccessful attempts to do so, they presented the following synthesized goal to the Commission for its reaction:

> To teach a use level of skill to the student, with the hand tools and power tools used to prepare, form, assemble and finish media with the safety precautions associated with these tools and materials.

Reaction to the Goal Concerned with Related Technical Information

> To provide the student with instruction in the basic related technical information and the technical terms used to describe tools, materials, and processes.

This goal was accepted without modification.

Reaction to the Goal Concerned with Ancillary Responsibilities

> To provide the student with experiences to acquire an understanding of the processes used in ordering replacement tools, equipment, or media supplies for an occupational therapy clinic.

In its presentation to the Commission the reporter for the group made the following suggestions to modify this statement. First, was that the word "replacement" be omitted since, literally interpreted, it means the requisitioning of tools or pieces of equipment to replace those that become obsolete or inoperable and excludes new tools or pieces of equipment that may be requisitioned. Following discussion by the Commission, this suggestion was accepted. Second, the therapists reacting to this statement considered the word "reconditioning" to be unacceptable. When this word is associated with occupational therapy it is often misinterpreted by the lay public to mean reconditioning of the body. It was pointed out by the researcher that this particular word has many connotations and one has to consider the context in which it is used. In this case, it refers to tools that are being reconditioned, and not an individual who is dysfunctional. This point created much discussion with the Commission which finally agreed that the word be retained in the recommended goal.

A member of the Commission suggested that the phrase, "occupational therapy clinic," be eliminated from this statement to parallel the recommendation made by Group A in its presentation of the Degree of Competency Goal Statement. This was accepted.

Reaction to the Goal Concerned with Adaptive Devices

> To provide the occupational therapy student with experiences illustrating the principles of stress, tension, or strain and to design and construct adaptive devices and adapt tools to the physical and psychosocial needs of the patient.

As previously indicated, the phrase "occupational therapy" was deleted. Other word deletions suggested by the Commission were "physical and psychosocial," because these words have a tendency to be interpreted to mean two dichotomous groups. These suggestions were considered, and following the discussion, were accepted. It was suggested also by therapists treating psychosocial patients that the word "recipient" be substituted for the word "patient." However, this was not acceptable to the members of the Commission.

One suggestion concerning this goal was that the phrase "of materials" be added after the word "strain" to indicate that the word "principles" in the goal applies to materials *per se.*

Reaction to Use-Limitation–Value Goal

> To provide the student with experiences in which he can learn the proper use, limitations, and value of tools and equipment common to an occupational therapy clinic.

The group reviewing this goal made the following suggestions for revising this statement: (1) the words "common to an occupational therapy clinic" be omitted because the phrase "occupational therapy" appears in the title for the goals; and (2) the words "value of the" be eliminated from the statement. The second recommendation was made because the members of the Commission felt "value" could be misinterpreted to mean a value judgment made by the therapist instead of the economic value placed on tools and equipment.

REACTION OF ADVISORY COMMISSION TO PROPOSED BASIC UNITS OF INSTRUCTION

The rating scale used by the Advisory Commission to rate the basic units of instruction contained three degrees of discrimination. These were: "essential," "desirable," and "not necessary."

To secure as many diverse reactions as possible to the basic units of instruction, members of the Advisory Commission were reassigned to their original group that reviewed the proposed goals. Each group had the responsibility of reviewing and rating the instructional units for three of the six media, with the added responsibility of making recommendations which would affect change in these units. Group A which was made up of eight members, was assigned the units covering requisitioning, textiles, clay, and metals. The assignment for Group B composed of seven members, was to review and rate the units for reading a working drawing, wood, leather, and plastics.

The two groups were then assembled as one when each presented its findings and recommendations for consideration by the entire membership of the Commission. At the time of presentation the recommended changes were discussed and they were either accepted or rejected.

Advisory Commission's Reaction to Behavioral Objectives

The reaction of the Advisory Commission to the behavioral objectives was that they were very descriptive. All of the objectives for the various units were accepted, but it was suggested, by a member of Group A, that the objective for the requisitioning unit be modified. This suggestion was made because this curriculum director felt that the proposed objective was stated too simply for a college student. Following recommendations made by this individual, the revised objective was reworded in this manner:

> Given information on number and size of projects to be fabricated, with the use of vendor's catalogs in which the items to be ordered are marked with a check and standard requisition forms, the student will prepare a requisition for ordering those items in twenty-five minutes without error in format.

Requisitioning Unit

Group A also had the responsibility for reveiwing and evaluating the instructional unit for the requisitioning of expendable supplies and capital equipment. This unit was rated by all eight members as being "essential." It was recommended that the technical terms which are used when requisitioning, ordering, and purchasing supplies and equipment, and which the student should know, be added to this unit.

Textile Units

As previously mentioned a three-level rating scale was used in rating each basic unit of instruction as "essential," "desirable," or "not necessary." All eight members of Group A rated the mitten unit as "not necessary;" while seven members gave this rating to the toy making unit; six to the embroidery unit; and five to the sewing unit.

The general reaction of the group reviewing the textiles units was that the suggested projects should reflect items that are made and used in contemporary society and which should hold the interest of the student. Consequently, it was recommended that a substitution be made for the scarf and mitten project, one that would incorporate the basic operations involved in making both these projects. It was suggested that a pair of T.V. slippers, which involves increasing and decreasing stitches, be substituted as a suggested project for the scarf and mitten projects. This suggestion was accepted.

Because of the number of therapists who rated the embroidery, sewing, and toy making projects as not necessary, these projects were omitted and more up-to-date projects substituted. It was suggested, and accepted, that the student might make a pyjama bag and sleepwear that might be required to embroider a monogram on the sleepwear. Completely eliminated was the suggested stuffed toy project. The basic operations to have been used in making this project could be included with those used in making a pyjama bag and the sleepwear.

It was suggested also that the student have experience in chain warping a small table loom. This suggestion was accepted. Another suggestion that was made, but not accepted, was that the student weave a twill pattern on the four harness loom. This was not considered a valid suggestion because the research findings show patients were weaving a tabby weave only.

Metal Units

The metal units of instruction were rated by the members of the Advisory Commission as being essential for organizing learning experiences in a treatment media course.

Clay Units

It was suggested that decorative processes used in decorating ceramics such as slip trailing, decalomanias, and sgraffito be added to the unit for slip casting. This suggestion was not accepted because these processes were not identified in the field study phase of the research.

Therapists who reviewed and rated the instruction units for clay rated them as being "essential" for students who will need to know the basic skills to cut, shape, form, and assemble this material.

Read a Working Drawing Unit

The members in Group B reviewed and rated the mechanical drafting unit where the student would learn to read a working drawing as "essential." These occupational therapy educators recommended that an additional unit be included as part of a mechanical drafting sequence. It was recommended that one be added that would provide educational experiences for the student to learn how to interpret three view drawings by completing one of the missing views. The titles for these units read:

Read a working drawing
View interpretation

Wood Units

Group B, in reacting to the basic units of instruction involving wood as a medium, rated four units as "essential" and the remaining unit as "desirable."

Leather Units

Of the four units presented, three were given an "essential" rating and one was rated as being "not necessary" by five of the seven therapists.

The general reaction of the therapists who worked on these units was that more operations could be taught using the key case as a vehicle by having the student tool the background and by using a cardovan stitch to lace the edge.

It was recommended to the Commission, and accepted, that a stamped leather belt with findings be substituted for the moccasin project which was rated as "not necessary." The five members from Group B who rated the moccasin project as "not necessary" did so because their position was the student would learn some of the operations involved in making this project, in working with other media. Because these recommendations were supported by the Commission, they were written into the recommended basic units of instruction for treatment media courses.

Plastic Units

The seven members of the Advisory Commission who rated these statements rated four of the five units as "essential" and the remaining unit as "not necessary." When asked why they rated the suggested fiberglas bowl project as "not necessary," these therapists said, "the student would learn the basic operations and processes used when they made the splint of fiberglas."

The group working with the instructional units for plastics was opposed to the use of individual trade names, such as "Orthoplast-Isoprene" for describing a plastic to be used in a treatment media course. It was recommended that the term "low temperature plastic" or "high temperature plastic" be substituted for the trade name depending on the physical characteristics of the plastic. It was suggested that the operations listed for the splint project were those used to work a high temperature plastic and, therefore, the words "high temperature" be substituted for the trade name in the objective for this unit. Since the physical properties of a plastic preclude its classification as either a thermoplastic plastic or a thermosetting plastic, the plastics used for splinting are classified as thermoplastic. Following the Commission's recommendation, a change was made in the phrasing of one of the objectives for the splinting unit.

Advisory Commission's Reaction to the Title for Proposed Goal Statements

The title and prefacing phrase for the goal statements that were presented to the Commission read:

PROPOSED DEPARTMENTAL GOALS IN TREATMENT MEDIA COURSES
IN TERMS OF OCCUPATIONAL THERAPY

The institution will provide an environment designed:

It was suggested by a member of the Commission that, because the goal statements had been reviewed, rated, and modified, the title would have to be changed also. This individual stated the title for these goals which could be used to give direction to treatment media courses be stated "as the recommended goals resulting from this research." However, one curriculum director was in opposition to the word "recommended." He felt that some college administrators take the position that recommended means an obligation to include what is recommended in their program. It was pointed out that what is recommended is permissive and not mandatory and it can either be accepted or rejected.

SELECTED CONCLUSIONS, OBSERVATIONS, RECOMMENDATIONS, AND IMPLICATIONS

The conclusions of the research are based on the findings of the research. These conclusions represent a synthesis of the answers to the specific objectives established for the research.

In conducting an investigation of this magnitude, observations are made which are related to the findings of the study but lack enough substantive evidence to be classified as conclusions. Many of these observations were made during the field study phase of the research and tangentially influenced the thinking of the research group.

Included also are recommendations that are an outgrowth of the findings of the study. These represent ideas and suggestions of the research group and are presented to identified groups for consideration. It is hoped, therefore, that the results of the study will be used by teachers responsible for teaching treatment media courses (1) in the formulation of aims and (2) in the organization and sequencing of basic units of instruction for courses of study which could be taught within the time allotted by the accrediting body. It is further hoped that as students are exposed to the content of these units, they will acquire the basic skills, both cognitive and manipulative, needed by a beginning occupational therapist.

CONCLUSIONS OF THE RESEARCH

The following conclusions were formulated from an analysis of the reaction of the two groups involved in the investigation. These persons included the Panel of Consultants who reviewed the goals and basic units of instruction and the Advisory Commission, who assisted by further refining the goals and instructional units to be recommended for courses to initially prepare the occupational therapy student with the basic skills required in the profession.

1. A major discrepancy exists between what is advocated by writers of theoretical texts for occupational therapy who stress the fact that the therapist is a teacher of the ill, and what is taught in treatment media courses where psychomotor skill development is maximized and the strategies involved in teaching minimized. Practicing therapists considered the strategies involved in teaching, the related competencies a student should know in order to teach a patient to work a medium, the wholesome attitude the student should develop towards safety and care of tools and equipment, and the adapting of tools to the needs of the patient–important factors to be taught in a treatment media course at the colleges and universities preparing occupational therapy students for the profession.

2. The therapists who formed the Panel of Consultants and the Advisory Commission agree that the individual project can be used to advantage, as a means to an end, in treatment media courses, as the vehicle for teaching manipulative and associated cognitive skills, and that this is the most appropriate teaching strategy for presenting the skills to be taught to an occupational therapy student preparing for the profession.

3. With the advent of the paraprofessional in occupational therapy and because these people are being increasingly employed as adjuncts to the therapists, many therapists find themselves fulfilling the role of a supervisor, yet, neither undergraduate study nor previous experience provide sufficient background for therapists to adequately assume this new role.

4. Therapists in leadership positions concur on the desired degree of skill that a therapist have to function at a professional level in teaching and supervising patients to manipulate both hand and machine tools to prepare, form, assemble, and finish a medium. This degree of skill was classified at the "use level," which is defined as the degree of competency a student preparing to become a therapist should acquire with hand tools and machine tools from educational experiences in treatment media courses.

5. The leaders from occupational therapy education and medical education who formed the Panel of Consultants agree that the basic units of instruction, as revised and endorsed by them, can be taught in less time than that recommended by the accrediting body (nine semester hours or its equivalent) as being the minimal number of hours for treatment media courses for the basic preparation of an occupational therapist.

6. In the curriculum revision, assistance needs to be secured from those intimately involved with both the theoretical and practical aspects of education, and these individuals need to be involved in the decision making process in determining the goals to be established, as well as the instructional units considered essential, for organizing and sequencing learning experience to fulfill the established goals.

OBSERVATIONS

The following are selected observations made by the researcher in conducting the various phases of the research.

1. It was observed that there is close coordination between the occupational therapist, the physical therapist, the speech therapist, and the social worker as these persons work in concert in planning a patient's treatment program so that the person may eventually become as independent as possible despite his handicap.

2. Nearly all of the activities performed by patients are those that could be classified as upper extremity activities involving some type of an operation (with tools and materials) and that require the patient to use the hands, arms, or shoulder muscles of the body. Some patients were observed, however, using the bicycle jig saw for therapeutic exercise to strengthen the muscles of the lower extremities, or to increase range of motion of the various joints. These patients used this machine without a blade or tension. After being positioned on the bicycle jig saw, they moved their legs in a reciprocating motion for a predetermined number of times, as though they were pedaling a bicycle. Since this practice appeared to be in contradiction of what appeared in professional theoretical textbooks, the therapists responsible were questioned about this practice. They indicated that this activity was being used as a means of fulfilling the treatment objective of the patient's physician.

3. The only teaching method, which permitted interpersonal relationships to be established, and exist, and employed by the therapist to present a tool operation to be learned by the patient, was the demonstration. In using this method of teaching the therapist first described the operation to the patient, while the patient watched the therapist perform the operation. Then the person was allowed to emulate the therapist by performing the operation. Completely lacking were other methods of teaching such as: instruction sheets, visual presentations, or closed circuit television which might well have been used to teach the learner.

4. Therapists were observed fulfilling the role of a clinical psychologist by administering non-projective tests to their patients and interpreting the results of these tests to the treatment team. In some centers where pediatric patients were being treated, therapists were responsible for administering perceptual-motor tests and interpreting the results. Still other therapists were treating adults who had been industrially injured. They were seen, for example, administering tests for prevocational evaluation (such as the Tower Series, O'Conner Tweezer Dexterity Test, Hand Tool Dexterity Test, Pennsylvania Bi-Manual Work Sample, Minnesota Rate of Manipulative Test, and the IBM Computer Programming Aptitude Test). In discussing these unique responsibilities with these therapists, they indicated that these competencies were not acquired in formal college preparation but had been "picked-up" in the practice of their profession.

5. One therapist responsible for treating a C-1 quadriplegic patient was observed performing rehabilitation nursing techniques. The activities this therapist used for this patient's treatment program were: reading and answering personal correspondence by typing replies with the use of a mouth stick to actuate the keys of an electric typewriter. In addition to her role and function as a therapist, she performed the following medical tasks: (1) taking the blood pressure of the patient; (2) transferring the patient's respirator from a permanent unit to a portable one which the patient used while learning to sit in a wheelchair; (3) suctioning the patient during treatment sessions; and (4) supervising hospital orderlies who were transferring the patient from a bed to a wheelchair and vice versa. During the interview it was learned from this therapist that her knowledge of, and competencies with, the rehabilitation nursing techniques she used were acquired in-service.

6. It was observed during site visits that supervisors of clinical practice and therapists in some of these affiliation centers were expected to "round-out" the student's education with treatment media by teaching them the basic skills used to cut, shape, form, assemble, and finish media they were not taught in formal courses. It is unjust to expect supervisors of clinical practice or their staff to teach the basic operations used to work media to students assigned for affiliation.

RECOMMENDATIONS

The following recommendations were formulated by the researcher for the consideration of (1) those who make up the profession; (2) those who are curriculum directors; and (3) those who are interested in doing research in occupational therapy.

Recommendations to the Profession

1. Research data analyzed indicated that, at the time of the study, the profession of occupational therapy was dominated by women. To recruit more men for the profession, it is recommended that all therapists begin an active campaign to interest more males in occupational therapy as a career. Because of their special competencies with tools and materials, and their ability to teach, particular attention should be given to the possibility of recruiting industrial arts teachers. Because of their knowledge of anatomy and kinesiology, and their ability to teach, special attention might be given to the recruitment of health and physical education teachers for this profession.

2. To provide individuals from other professions, who may want to be certificated as a therapist and to provide them with an overview of occupational therapy, it is recommended that the Association provide the leadership in organizing institutes at selected colleges and universities; these institutes could be conducted in different geographic areas of the nation, designed to last eight weeks. The first four weeks could be spent learning the philosophy, objectives, and function of occupational therapy with different age levels in the two disability areas. The remaining four weeks devoted to an opportunity in a special occupational therapy internship where these individuals could observe therapists administering treatment. It is suggested that two weeks of this intership be spent in treatment centers for the physically dysfunctional and two weeks in centers where the psychosocially dysfunctional are treated. Such an exposure would help these individuals decide if occupational therapy would be an exciting career.

3. To alleviate the problem of misinterpretation from words and phrases, used by both the professional and paraprofessional personnel working in occupational therapy, there is need for a glossary of technical terms. It is recommended, therefore, that the Association start compiling and standardizing definitions for selected words and phrases, and then have these cataloged, and classified for publication by the Association.

4. At the time of the study, there was no central location, other than the Library of Congress in Washington, D.C., where the earlier theoretical texts for occupational therapy could be found. It is recommended, therefore, that every effort be made by the Association to secure from the personal libraries to retired members, or from the publishers, copies of professional books which are now out-of-print. It is recommended also that an extra effort be made to procure the more recent professional books, copies of master's theses, doctoral dissertations, and studies related to occupational therapy so that these materials might be placed in some central depository, such a collection might be located at some major university with a well-established program in occupational therapy education. From this facility students and researchers could rent these useful references or have copies made for a nominal fee.

It is further suggested that the Association compile a bibliography of these reference materials, periodically up-date this list, and distribute it to curriculum directors. It could be a responsibility of these directors to duplicate and place a copy of this list in the hands of their students.

Recommendations to Curriculum Directors

1. It is suggested that consideration be given to the sequence in which the treatment media courses are offered. It could be that the prescribed treatment media courses, particularly those involving tools and materials should be taught during the student's junior and senior years of academic preparation so that the application of skills learned in these courses would be more closely related and applied with their use in clinical practice.

2. That serious consideration be given to redesigning the physical facilities where treatment media courses are taught so that they are organized something like the clinics in treatment centers, as multi-media laboratories or shops, where the professor would be responsible for teaching three or more activities concurrently.

3. That consideration be given to the development, and inclusion in the curriculum, of a teaching methods course specifically designed for the occupational therapy student. The student enrolled in this course would learn the strategies involved in teaching the ill, the numerous methods that might be employed for presenting content to the patient (learner), and to select the method most appropriate for any instructional unit under consideration, and as it would relate to the treatment situation.

4. As a recommendation (for the implementation of conclusion number three) a college level course in supervision and administration be designed for undergraduate students where the future occupational therapists could be made aware of the problems they may encounter (1) in supervising paraprofessionals, (2) in administering, managing, and staffing a clinic (with consideration of how these problems may be solved with the cooperation of staff and/or hospital administrators), and (3) in the social structure of the "closed society" of the hospital and the affect this will have on the role of the therapists and other allied health personnel.

5. It is recommended that an evaluation be made of the goals and content of the prescribed psychology courses that students take to determine if the students are taught concepts and principles that will be useful to them in working with people who are abnormal because of illness or injury.

6. It is recommended also that curriculum directors give consideration to a course specifically designed for the occupational therapy undergraduate student where she could learn interviewing techniques and the administration and interpretation of the more commonly used non-projective tests which therapists use to evaluate patients.

7. It is recommended that a skills profile be developed that could become part of the student's dossier. This profile could list the basic skills that a student has been taught after successfully completing learning experiences in treatment media courses. This record would show the competence of the student so supervisors of clinical affiliation would have a comprehensive profile of the student's skill background.

8. It is recommended that curriculum directors and their staff return to practice at least once every five years, for a period of twelve months, for updating and upgrading their professional skills. The concepts acquired from these experiences would be reflected in upgrading curriculum and keeping it dynamic and relavant to the needs of the profession.

9. Where administrators of community colleges anticipate the establishment of a curriculum for Certified Occupational Therapy Assistants, it is recommended that they establish an Advisory Commission to assist in planning the curriculum. It is further suggested that they include, as a member of this commission, a director of an accredited occupational therapy curriculum from a college or university within the service area of the community college so that a joint program may be established between these institutions, in order that students could continue their education, if they so elect.

Recommendations for Further Research

1. A research directed at a longitudinal pilot study using the results of this investigation to organize courses of study for treatment media courses, which would be taught in a multi-media laboratory where three or more activities would be taught concurrently. A follow-up study would be made, then, of these students at intervals of one and three years to determine if success was correlated with the way treatment media courses were presented. The findings of the proposed study could result in directives for the recommended program for organizing treatment media courses. The design for such a pilot study might be submitted to the Social and Rehabilitation Service, Department of Health, Education, and Welfare for funding.
2. It is recommended that kinesiologic studies be conducted to determine the therapeutic effect that the more frequently used activities (identified in this research) have on the neuromuscular and the muscularskeletal systems of the body so that activity selection could be placed on a more scientific and less empiric basis.
3. To support recommendation number two for further research, and to place occupational therapy on a more scientific base, it is recommended that physiometric research studies, similar to those undertaken at the Veterans Administration Hospital, Houston, Texas be conducted to develop electronic measuring devices which would measure increase range of motion or increase muscle strength that a patient may develop from treatment. The results could be recorded, and used by the therapists during ward rounds to make the therapists' reports as objective, as a patient's temperature chart, for the members of the treatment team.
4. It is recommended that an investigation be undertaken to determine the feasibility of using closed circuit television with psychosocial patients to record, graphically, the improvement a patient may show from actively participating in treatment with other patients. The record of improvement could be reviewed repeatedly by the psychiatrist and other members of the treatment team.
5. A study be made to determine the feasibility of using single concept film loops for presenting the basic tool and machine operations to a patient who will use these operations in treatment. This visual presentation would be under the direct supervision of a therapist assisted by a certified occupational therapy assistant who would be responsible for treatment applications.

Implications

A major implication of the research for the furture of treatment media courses in occupational therapy education will be a modification in the environment where these courses are taught. These physical facilities should be organized as multi-media laboratories or shops where the professor will be responsible for teaching three or more activities concurrently. In these laboratories there should be enough work stations in all areas to comfortably handle eighteen students, with enough hand and machine tools in each area to make it autonomous so that the time of the student is optimally utilized. Each area should be serviced with the proper utilities for the various machines.

This organizational pattern, however, has limitations. The introduction of multi-media laboratories in collegiate institutions will be seriously hampered by the number of teachers who are competent to organize and to teach in this type of environment. Two of the most important criteria for the selction of individuals to teach in a multi-media laboratory are (1) that the person have a diversified skill background with a wide variety of media and (2) that the teacher have some experience in organizing the physical facilities for a multi-media laboratory and the course content so that both the teacher's and the learner's time is wisely used.

The results of the study has implications also for writers of textbooks used in treatment media courses. The textbooks used in these courses which describe tools, materials, and processes will have to be written so that they cover a wide variety of tools and more than one medium. These texts will have to be designed so that they cover the basic skills used with a minimum of three media or a maximum of six media identified in this study.

RECOMMENDED GOALS IN TREATMENT MEDIA COURSES IN TERMS OF OCCUPATIONAL THERAPY

The institution will provide an environment designed:

To provide the student with the opportunity to acquire and develop skills needed to teach the diverse array of skills necessary to manipulate the hand and power tools to prepare, form, assemble, and finish media.

To teach a use level of skill to the student with the hand tools and power tools used to prepare, form, assemble and finish media with the safety precautions associated with these tools and materials.

To provide the student with instruction in the basic related technical information and the technical terms used to describe tools, materials, and processes.

To provide the student with experiences to acquire an understanding of the processes used in reconditioning tools and to learn the concepts used in ordering tools, equipment, or media supplies.

To provide the student with experiences illustrating the principles of stress, tension, or strain of materials through the design and construction of adaptive devices and the adaption of tools for the needs of the patient.

To provide the student with experiences in which he can learn the proper use and limitations of tools and equipment.

BASIC UNITS OF INSTRUCTION

MEDIA:
Clay, Leather, Metals, Plastics, Wood, Textiles

Suggested Project:
Read a working drawing 3 hours

Objective:[1]
Presented with a selection of project drawings for the common materials and a blank bill of material form, the student will demonstrate his ability to interpret these drawings by listing the size of each piece to be assembled on the bill of material with 90 percent accuracy.

I. Skills to be taught:
- Read working drawing
- Make bill of material
- Make pattern for design
- Transfer design by square
- Make templates
- Interpret orthographic projection

II. Tools to be used:
- Selection of project drawings
- Bill of material form
- Chalk board
- Chalk

III. Suggested methods of presentation:
- Illustrated lecture
- Visual presentation
- Programmed instruction

MEDIA:
Clay, Leather, Metals, Plastics, Wood, Textiles

Suggested Project:
View interpretation 3 hours

Objective:
Presented with a selection of drawings with one view missing, the student will show his knowledge and understanding to interpret these drawings by sketching the missing view with 90 percent accuracy.

I. Previous skills taught:
- Read working drawing
- Make pattern for design
- Transfer design by square
- Make template

---

[1] The behavioral objectives for these basic units of instruction were reviewed by Dr. Richard W. Burns, School of Education, The University of Texas at El Paso, and Mrs. Jolie Fitzgerald, Center for The Study of Evaluation, University of California, Los Angeles. Both these individuals have considerable experience in writing instructional objectives in behavioral terms.

II. Previous tools used:
    Chalk board
    Chalk

New tools to be used:
    Prints of projects to be made
    Models
    Projection box

III. Technical terms:
    Line quality
    Alphabet of lines
    Orthographic projections
    Isometric projection
    Cabinet projection

IV. Suggested methods of presentation:
    Illustrated lecture
    Projectals
    Closed curcuit television
    Programmed instruction

MEDIA:
Clay, Leather, Metals, Plastics, Wood, Textiles

Suggested Project:
Requisitioning expendable supplies and capital equipment from vendors' catalogs 2 hours

Objective:
Given information on number and size of projects to be fabricated and with the use of vendors' catalogs, in which the items to be ordered are marked with a check, and standard requisition forms, the learner will prepare a requisition for ordering those items in twenty-five minutes without error in format.

I.

Tools to be used:
    Catalogs
    Standard requisitioning forms

II. Technical terms:
    Requisition
    Purchasing Agent
    Vendor
    Invoice
    Shipping manifest
    Bill of Lading
    Capital equipment
    Expendable supplies
    Short ship

III. Suggested methods of presentation:
    Illustrated lecture
    Visual presentation
    Programmed instruction

MEDIA:
Clay

Suggested Project:
Pinch method of construction 4 hours
(such as an ash tray)

Objectives:
Presented with a series of pictures showing pottery shapes made by the pinch method, a ball of unwedged clay, and the hand tools listed below, the student will show use level of skill with the tools by pinch forming a selected shape.

Presented with printed instructions, a paint brush, and an assortment of low fire glazes, the student will learn to brush glaze on a piece of greenware.

Given a ceramic kiln with automatic electronic controls, kiln furniture, and greenware piece glazed, the student will show use level of skill to stack, fire, and draw the kiln. The finished project will be rated from a high of 5 to a low of 1 on a project rating scale, with a minimum of 3 acceptable.

The learner is to develop a knowledge of the eighteen technical terms associated with this unit of instruction so that he can write sentences using a minimum of fifteen of these terms.

I. Previous skills taught:
    Make plan of procedure

Skills to be taught:

A. Preparing:
    Prepare clay
    Wedge clay
    Make a pinch piece
    Smooth countours by pinching up and sponging
    Place in damp storage

B. Decorate by:
    Apply glaze with brush

C. Finishing:
    Prepare surfaces of kiln for loading
    Prepare cone pats for firing range
    Set a bisque kiln
    Set a glost kiln
    Fire a kiln
    Determine internal temperature of kiln
    Draw a kiln
    Grind off glaze and remove scars from foot of glazed ware

II.

New tools to be used:
    Wedging board
    Wedging wire
    Sponge
    Paint brush
    Kiln
    Pyrometer
    Electric grinder
    Stilts
    Kiln furniture

III. Safety precautions:
    Consider glazes to be toxic
    Place glazed greenware on stilts or saddles and away from walls of kiln
    Do not sight in vapor opening of kiln while it is being fired
    Remove project from kiln when it has cooled
    Avoid rubbing fingers over raised glazed surfaces
    Pyrometer should only be readjusted under the supervision of the teacher
    Wear eye protection when grinding off scars

IV. Technical terms:

- Plasticity
- Pyrometer
- Greenware
- Bisque ware
- Pyrometric cones
- Stack-a-kiln
- Draw-a-kiln
- Porosity
- Shrinkage
- Vitrification
- Oxidation
- Dehydration
- Thermocouple
- Crazing
- Blistering
- Pinholes
- Crawling
- Mat
- Cones
- Clay body
- Engobe
- Leatherhard
- Saddles
- Stilts

V. Suggested methods of presentation:

- Individual demonstration
- Closed circuit television
- Peer supervised teaching

VI. Care and maintenance:

- Apply kiln wash to kiln walls and shelf

VII. Suggested related technical information topics:

- Properties of clay
- How glazes are made
- Calculating the cost of firing a kiln
- Clay changes during firing cycle
- Temperature measurement and control by pyrometric cone

Titles for other instructional units for clay are:

- Piece of slab construction
- Coil contruct a selected piece
- Slip cast a manufactured mold

MEDIUM:
Leather

Suggested Project:
Key case with monogram and stamped background; use 5 oz. calfskin 4 hours

Objectives:

Given a blank bill of material form and a selection of working drawings of monogramed key cases with tooled background, the student will show his ability to interpret the drawing selected by listing each part to be assembled on a bill of material with 90 percent accuracy.

Given a standard set of layout hand tools listed below, the student will show use level of skill to use these tools by laying out a selected project from a working drawing without error.

Given a standard set of leatherworking hand tools listed below, the student will show use level of skill to safely use these tools, by cutting, forming, and assembling the selected project. The student will display an overall rating of at least 4 on a 6–point skills assessment inventory. The finished project will be rated from a high of 5 to a low of 1 on a project rating scale.

The learner is to develop a knowledge of fourteen technical terms associated with this unit of instruction so that the student can write sentences, using a minimum of twelve of these terms.

With a peer unfamiliar with the safe practices used with the leatherworking hand tools listed below, the student will develop teaching skills by demonstrating how to use these tools to cut, shape, and assemble leather. The teaching situation will be critiqued by the learner, the student-teacher, and the professor, and rated for strengths and weaknesses. This experience will count 2 percent of the final grade.

I. **Previous skills taught:**
   - **Read working drawing**
   - **Make plan of procedure**
   - **Make pattern for design**

Skills to be taught:

A. Preparing:
   - Transfer templates
   - Cut to line with leather shears
   - Do flat modeling
   - Prepare leather for tooling
   - Do outline tooling
   - Bevel edges
   - Color and dye leather
   - Stipple background
   - Skive edges
   - Punch for lacing
   - Cut lacing with knife
   - Splice lacing

B. Assembling:
   - Set snap fasteners
   - Set eyelets and grommets
   - Rivet with speedy rivets
   - End lacing
   - Use lacing needle

C. Finishing:
   - Apply bag dressing

II. New tools to be used:
   - Template
   - Pencil
   - Dividers
   - Beveler
   - Leather shears
   - Set of modeling tools
   - Piece of marble
   - Sponge
   - Wood mallet
   - Snap fastener setting tools
   - Eyelet anvil
   - Snap fastener anvil
   - Ball peen hammer
   - Edge creaser
   - Lacing needle
   - Lacing punch
   - Skiving knive
   - Knife
   - Rotary punch

III. **Safety precautions:**
   - **Carry edge tools with edge pointed to the ground**
   - **Do not use tools with mushroomed heads**
   - **Skive away from the body**
   - **Consider cement, solvents, and dyes toxic**

IV. Technical terms:

Rivet anvil
Rivet
Snap fastener
Eyelet
Grommet
Calfskin
Vegetable tanning
Chrome tanning
Hide
Skin
Kips
Skiver
Slunk
Suede finish

V. Suggested methods of presentation:

Visual presentation
Instruction sheet
Individual demonstration
Visual presentation

Titles for other instructional units for leather are:

Carved leather wallet, double layover lacing; use vegetable tanned calfskin
Stamped leather belt
Leather strap with buckle and loop

MEDIUM:
Metals

Suggested Project:
Contour 18 gauge brass to metal form 6 hours

Objectives:

Given a standard set of metalworking tools, 18 gauge brass, and a metal form, the student will show use level of skill with these tools by forming a bowl to match the contour of the form.

Given a brass bowl and a standard set of planishing tools listed below, the student will show use level of skill with these tools by planishing the surface of the bowl.

Given a brass bowl which has been formed and the soldering tools listed below, the student will show use level of skill with these tools by silver soldering the foot to the bowl. The finished project will be rated from a high of 5 to a low of 1 on a project rating scale, with a minimum of 3 acceptable.

The learner is to develop a knowledge of fourteen technical terms associated with this unit of instruction, so that the student can write sentences using a minimum of ten of these terms.

With a peer unfamiliar with the safe practices used with the metalworking hand tools listed below, the student will develop teaching skills by demonstrating how to use these tools to cut, shape, form, and assemble metal. This teaching situation will be critiqued by the learner, the student-teacher, and the professor, and rated for strengths and weaknesses. The total of these experiences will count 2 percent of the final grade.

I. Previous skills taught:

Read working drawing
Make plan of procedure
Make bill of material
Transfer pattern

Skills to be taught:

A. Preparing:

Gauge metal
Layout pattern
Cut to line with snips
File metal edges
Raise by wrinkling
Raise metal over stake
Anneal metal
Planish a surface
Shape metal to form

B. Assembling:
- Binding wire–its use in soldering
- Secure foot to body
- Silver solder
- Sweat solder a joint

C. Finishing:
- Polish with abrasives
- Buff metal with rouge paste
- Machine buff
- Clean metal chemically

II. New Tools to be used:
- Templates
- B&S gauge
- Tin snips
- Rule
- Compass
- Hammer
- Mallet
- Gas furnace
- Electric buffer
- File
- File card
- Tweezer
- Tongs (long)
- Needle nose pliers
- Side cutting pliers
- Gas pliers
- Propane torch
- Metal forms
- Planish hammer
- Stake plate and stakes

III. Safety precautions:
- Consider cleaning solution toxic
- Use cleaning solution in well ventilated area
- Hold project below center of wheel; when buffing, use upward motion and pressure
- When using buffer, wear eye protection and a respirator
- When using buffer, keep hands and fingers away from moving parts
- Before starting machine be sure that all safety appliances are in place and operating effectively
- Stop machine before making adjustments

IV. Technical terms:
- Flux
- Solder
- Planish
- Sweat solder
- Oxidize
- Malleability
- Anneal
- Molecular action
- Gauge
- Pickle solution
- Emory
- Crocus
- Ferrous
- Non-ferrous

V. Suggested methods of presentation:
- Individual demonstration
- Closed circuit television
- Supervised performance
- Peer supervised teaching

VI. Care and maintenance:
Reconditioning of tools
Preventive maintenance

VII. Suggested related technical information topics:
Flux used with various solders
Safety in the use of acids
Kinds of metal which can be soldered
How and where abrasives are obtained
Manufacture of abrasive cloth
Smelting and refining of ores
Grades of steel wool
Surface ornamentation
Cleaning metals with solutions
Classification of files
Hacksaw blades

Titles for other instructional units for metals are:

Quadriplegic utensil holder with clip
Pierced brooch
Right-hand swing spoon to fit quadriplegic utensil holder
Copper tooling (foil)

MEDIUM:
Plastics

Suggested Project:

Rectangular box of a thermoplastic plastic	9 hours

Objectives:

Presented with a blank bill of material form and a selection of working drawings of a rectangular-shaped box, the student will select a drawing and demonstrate his ability to read the working drawing by listing the size of each piece to be assembled on the bill of material, with 90 percent accuracy.

Given a standard set of plastic layout hand tools listed below, the student will show use level of skill to use these tools by laying out a selected project from a working drawing without error.

Given a standard set of plastic hand tools listed below, the student will show use level of skill to safely use these tools by cutting, shaping, and assembling the material. The student will display an overall rating of at least 4 on a 6–point skills assessment inventory. The finished project will be rated from a high of 5 to a low of 1 on a project rating scale, with a minimum of 3 acceptable.

The learner is to develop a knowledge of ten technical terms associated with this unit of instruction ss that the student can write sentences, using a minimum of seven of these terms.

With a peer unfamiliar with the safe practices used with the plastic hand tools listed below, the student will develop teaching skills by demonstrating how to use these tools to cut, shape, and assemble plastics. This teaching situation will be critiqued by the learner, the student-teacher, and the professor, and rated for strengths and weaknesses. This experience will count 2 percent on the final grade.

I. Previous skills taught:
  Read working drawing
  Make plan of procedure
  Make bill of material

Skills to be taught:

A. Preparing:
  Design, modify, or adapt project
  Measure, divide with a rule
  Test with try-square
  Divide spaces with dividers
  Layout stock
  Layout and make duplicate parts
  Saw to line with backsaw
  Shape with file
  Shape with sandpaper
  Scrape edge with hand scraper

B. Assembling:
  Chemical fasten

C. Finishing:
  Abrasive and machine buff

II. Previous tools used:
  Project plan

New tools to be used:
  Try-square
  Dividers
  Scriber
  Combination square
  Backsaw
  Machine buffing wheel
  File
  File card
  Sanding block
  Hand scraper
  Paint brush

III. Safety precautions:
  Solvents should be considered toxic
  Solvents should be used in a well ventilated area
  Do not breathe in solvent fumes for any extended period
  Buffing wheel:
    Wear eye protection
    Use bottom half of wheel for buffing
    Wait until buff reaches maximum speed before buffing

IV. Technical terms:
  Masking
  Cushion
  Solvents
  Thermoplastic
  Thermosetting
  Abrasive
  Plastic memory
  Opaque
  Transparent
  Translucent

V. Suggested methods of presentation:
  Visual presentation
  Individual demonstration
  Closed circuit television
  Programmed instruction
  Peer supervised teaching

VI. Care and maintenance:
  Reconditioning of tools

VII. Suggested related technical information topics:
  Definition of plastics
  Characteristics of common plastics
  Kinds of cements and their use
  Care and storage of plastics
  Types of mechanical fasteners
  Solvent welding
  Masking

Titles for other instructional units for plastics are:

Desk nameplate of a thermoplastic plastic
Cock-up splint of a high temperature thermoplastic
Fiberglas right forearm splint

MEDIUM:
  Textiles

NEEDLECRAFTS:
  Knitting activities

Suggested Project:
  Knit a pair of T.V. slippers — 5 hours

Objectives:

Presented with a set of written instructions and a set of standard hand tools used to knit yarn, listed below, the student will show use level of skill with these tools by knitting a pair of T.V. slippers to size. The finished project will be rated from a high of 5 to a low of 1 on a project rating scale, with a minimum of 3 acceptable.

The learner is to develop a knowledge of all technical terms associated with this unit of instruction, so that the student can write sentences using twelve of these terms.

I. Skills to be taught:

A. Read knitting instructions

B. Forming:
  Cast on stitches
  Knit
  Purl
  Rib
  Increase
  Decrease
  Garter stitch
  Stockinette stitch
  Bind off
  Pick up dropped stitches
  Join ends (no knots)

C. Assembling:
Finish with tapestry needle

D. Finishing:
Block item

II. New tools to be used:
- Knitting needles (single point)
- Crochet hook
- Rule
- Stitch and row counter
- Needle gauge and gauge check
- Scissors
- Tapestry needle

III. Safety precautions:
Use light colored needles with dark yarn and dark colored needles with light yarn for better view of work

IV. Technical terms:
- Skein
- Tension
- Row
- Knit
- Purl
- Cast on
- Bind off
- Increase
- Decrease
- Rib
- Garter stitch
- Stockinette stitch
- Worsted yarn
- Ply
- Dye lot

V. Suggested method of presentation:
- Instruction sheet
- Individual demonstration
- Supervised performance
- Closed circuit television

VI. Suggested related technical information topics:
- Bleaching
- Effects of drying fibers with heat
- Selecting materials to be used in fabric
- Determining amount of filling yarn needed
- How knitting needles are made
- Figuring yarn requirements
- Choosing suitable and pleasing color considerations

Title for other instructional units for textiles are:
- Loom prepartion for weaving
- Weave 12" x 18" placemat with a tabby weave
- Wind and chain a warp for a table loom, thread as honeysuckle
- Crochet thirty-six 3" x 3" squares; use double crochet stitch
- Pyjama bag with zipper
- Sew article of sleepwear
- Embroider a three-color monogram on sleepwear

MEDIUM:
Wood

Suggested Project:
Retangular project 9 hours

Objectives:

Presented with a blank bill of material form and a selection of working drawings of rectilinear projects, the student will select a drawing and will demonstrate his ability to read the working drawing by listing the size of each piece to be assembled on a bill of material with 90 percent accuracy.

Given a standard set of woodworking layout hand tools listed below, the student will show use level of skill to use these tools by laying out a selected project from a working drawing, without errors.

Given a standard set of woodworking hand tools listed below, the student will show use level of skill to use these tools safely by cutting, shaping, forming, and assembling a selected project. The student will display an overall rating of at least 4 on a 6–point skills assessment inventory. The finished project will be rated from a high of 5 to a low of 1 on a project rating scale, with a minimum of 3 acceptable.

The learner is to develop a knowledge of thirty-seven technical terms associated with this unit of instruction, so that the student can write sentences, using a minimum of thirty-three of these terms.

The student will develop the teaching skills used in teaching an individual how to safely use woodworking hand tools, listed below, to cut, shape, form, or assemble wood. The teaching situation will be critiqued by the learner, the student-teacher, and the professor, and rated for strengths and weaknesses. This experience will count 2 percent of the final grade.

I. Previous skills taught:
    Read working drawing
    Make plan of procedure
    Make bill of material

Skills to be taught:

A. Preparing:
    Measure, divide with a rule

B. Forming:
    Layout pattern on stock
    Layout and make duplicate parts
    Layout square cuts with carpenter's square
    Saw to a line with hand saw
    Plane an edge
    Plane end grain
    Plane a surface true
    Square up stock with plane
    Adjust block plane
    Adjust jack plane
    Sand a face smooth
    Drill holes with hand drill
    Test with try-square
    Surform

C. Assembling:
- Chemical fasteners
- Mechanical fasteners
- Set brads with nail set

D. Finishing:
- Apply oil stain
- Apply varnish

II. Previous tools used:
- Project plan
- Rule
- Measuring tape
- Pencil

New tools to be used:
- Try-square
- Combination square
- Carpenter's square
- Crosscut
- Rip saw
- Backsaw
- Block plane
- Jack plane
- Jointer plane
- Hand drill
- Set of twist drill bits
- Sanding block
- Claw hammer
- Paint brush
- Vise

III. Safety precautions:
- Use sharp tools only
- Carry edge tools with edge pointed to the ground
- Consider solvents toxic
- Avoid using a nail set with a mushroomed head

IV. Technical terms:
- Heartwood
- Sapwood
- Pith
- Cambrium layer
- Inner bark
- Outer bark
- Kerf
- Air dried
- Tempered
- Quarter sawed
- Plain sawed
- Linseed oil
- Turpentine
- Defects in wood:
  - Knots
  - Pitch pockets
  - Warp
  - Wind
  - Checks
- Point
- End grain
- Long grain
- With the grain
- Carborundum
- Arkansas stone
- Honing
- Set
- Plane iron
- Grit
- Gauge
- Brad point
- Set
- Kiln dried
- Wire edge
- Working face
- Working end
- Working edge
- Surface

V. Suggested methods of presentation:
- Individual demonstration
- Visual presentation
- Projectals
- Peer supervised teaching
- Closed circuit television

VI. Care and maintenance:
  - Lubrication points on grinder
  - Reconditioning of tools
  - Clean brushes

VII. Suggested related technical information topics:
  - Sandpaper-its manufacture
  - Grading of sandpaper
  - Size of nails
  - Size and type of screws
  - Solvents used in finishing
  - Drill sizes and styles
  - Manufacture of adhesives

Titles for other instructional units for wood are:

A project involving curves
Picture frame from purchased molding
Assemble a purchased woodworking kit

APPENDIX A

This appendix is codified and organized according to the following numbering system:

1. List of participating department chairmen of accredited curricula.
2. Initial correspondence with department chairmen requesting cooperation and a list of teachers of treatment media. Follow-up letter to department chairmen.
3. Bibliographical listing of text and reference books used in the charting procedure to identify additional activities for the Activity Analysis.

A.1 – LIST OF DEPARTMENT CHAIRMEN WHO PARTICIPATED IN THE INVESTIGATION

Asst. Professor Edwinna Marshall, O.T.R.
Director, Occupational Therapy Department
Loma Linda University
Loma Linda, California 93254

Associate Professor Anne Murany, O.T.R.
Chairman, Occupational Therapy Department
San Jose State College
San Jose, California 95114

Associate Professor Marjorie Ball, O.T.R.
Head, Department of Occupational Therapy
College of Home Economics
Colorado State University
Ft. Collins, Colorado 80521

Associate Professor Alice C. Jantzen, O.T.R.
Chairman, Occupational Therapy Department
College of Health Related Professions
University of Florida
Gainesville, Florida 32601

Associate Professor Beatric D. Wade, O.T.R.
Head, Occupational Therapy Department
College of Medicine
School of Associated Medical Sciences
University of Illinois
1853 West Polk Street
Chicago, Illinois 60612

Professor Leland D. Miller, O.T.R.
Director of Occupational Therapy
University of Kansas
11th and West Campus Road
Lawrence, KKansas 66044

Associate Professor Jerry Ann Johnson, O.T.R.
Chairman, Division of Occupational Therapy
Sargent College
Boston University
Charles River Campus
University Road
Boston, Massachusetts 02215

Associate Professor Frances Herrick, O.T.R.
Director of Occupational Therapy
Eastern Michigan University
Ypsilanti, Michigan 48197

Associate Professor Barbara Jewett, O.T.R.
Chairmen, Division of Occupational Therapy
School of Medicine
Wayne State University
Rehabilitation Institute, Inc.
261 Mack Boulevard
Detroit, Michigan 48201

Professor Rosalia A. Kiss, O.T.R. (Dr.)
Head, Occupational Therapy Department
Western Michigan University
Kalamazoo, Michigan 49001

Asst. Professor Marvin G. Lepley, O.T.R.
Director, Course in Occupational Therapy
College of Medical Sciences
University of Minnesota
Minneapolis, Minnesota 55455

Asst. Professor Martha E. Matthews, O.T.R.
Director, Department of Occupational Therapy
School of Medicine
Washington University
4567 Scott Avenue
St. Louis, Missouri 63110

Asst. Professor Virginia Bell, O.T.R.
Chairman, Occupational Therapy Department
College of Liberal Arts
Division of Biological Sciences
University of New Hampshire
Durham, New Hampshire 03824

Associate Professor Marie Louise Franciscus, O.T.R.
Director, Courses in Occupational Therapy
College of Physicians and Surgeons
Columbia University
630 West 168th Street
New York, New York 10032

Associate Professor Frieda J. Behlen, O.T.R.
Adviser, Occupational Therapy Curricula
School of Education
New York University
80 Washington Square East
New York, New York

Associate Professor Nancie B. Greenman, O.T.R.
Chairman, Department of Occupational Therapy
School of Health-Related Professions
State University of New York at Buffalo
3435 Main Street
Buffalo, New York 14214

Associate Professor Amy Lind, O.T.R. (Dr.)
Chairman, Occupational Therapy Department
University of North Dakota
Grand Forks, North Dakota 58201

Professor Barbara Locher, O.T.R.
Director, Curriculum in Occupational Therapy
School of Medicine
School of Allied Medical Services
The Ohio State University
410 West 10th Avenue
Columbus, Ohio 43210

Asst. Professor Virginia W. Curtin, O.T.R.
Acting Chairman, Department of Occupational Therapy
School of Allied Medical Professions
University of Pennsylvania
3901 Pine Street
Philadelphia, Pennsylvania 19104

Associate Professor Esteban Lopez Fernandez, O.T.R.
Curriculum Director in Occupational Therapy
School of Physical and Occupational Therapy
University of Puerto Rico
Puerto Rico Medical Center
Industrial Hospital, 1st Floor
Rio Piedras, Puerto Rico 00935

Asst. Professor Ruth W. Pershing, O.T.R.
Director, School of Occupational Therapy
Texas Woman's University
Denton, Texas 76201

Associate Professor Cornelius A. Kooiman, O.T.R.
Director, School of Occupational Therapy
Richmond Professional Institute
901 West Franklin Street
Richmond, Virginia 23220

Associate Professor Joyce M. Ward, O.T.R.
Director, School of Occupational Therapy
University of Puget Sound
Tacoma, Washington 98416

Miss Jennie A. Lucci, O.T.R.
Head, Division of Occupational Therapy
School of Medicine
University of Washington
CC–814, University Hospital
Seattle, Washington 98105

Sister Mary Arthur, O.T.R.
Chairman, Department of Occupational Therapy
Mount Mary College
2900 N. Menomonee River Parkway
Milwaukee, Wisconsin 53222

Asst. Professor Caroline G. Thompson, O.T.R.
Director of Occupational Therapy
Curriculum in Occupational Therapy
University of Wisconsin
1308 West Dayton
Madison, Wisconsin 53706

FACULTY OF EDUCATION
DEPARTMENT OF INDUSTRIAL AND
VOCATIONAL EDUCATION

THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA, CANADA

A.2 – INITIAL CORRESPONDENCE WITH DEPARTMENT CHAIRMEN REQUESTING COOPERATION AND A LIST OF TEACHERS OF TREATME MEDIA

February 14, 1968

Dear

One important phase in the professional preparation of an occupational therapist is that devoted to treatment media courses where the student develops skills and related competencies. Recently, the Council on Medical Education of the American Medical Association, in collaboration with the American Occupational Therapy Association, Inc., recommended that the number of semester hours allocated to this phase of preparation be reduced from twenty-five to nine. With such a short time allocated to skill development, each course must be designed to make a maximum contribution.

As a teacher of industrial arts, who taught service courses to students majoring in occupational therapy at Wayne State University, Detroit, Michigan, I became concerned with whether or not the goals established for these courses were realistic for thse students. From this interest, I am doing a research study entitled, GOALS AND BASIC UNITS OF INSTRUCTION FOR TREATMENT MEDIA COURSES FOR THE PREPARATION OF OCCUPATIONAL THERAPISTS. This study is under the advisorship of Dr. G. Harold Silvius, Chairman, Department of Industrial Education, and Miss Barbara Jewett, O.T.R., Chairman, Division of Occupational Therapy, School of Medicine, Wayne State University. The American Occupational Therapy Association, Inc., and its various committees, through Miss Virginia T. Kilburn, O.T.R., Director of Professional Educational Services, is cooperating in all phases of this investigation.

This study is concerned with what are the prevailing goals for treatment media courses, what these goals ought to be, and what basic units of instruction should be taught to achieve these goals.

Permission is requirested to include your institution and department in this research study. It would be extremely helpful, and add to the completeness of this study, if you would: send the names and addresses of teachers responsible for teaching treatment media to students enrolled in your curriculum so I may contact them requesting courses of study, course outlines, or syllabi; and a college catalog which fully describes the course offerings for occupational therapy students.

This request for information is being sent from this office, since I will be leaving for Wayne State University in the very near future to concentrate full- time on this investigation. I am most anxious to hear from you so that the preliminary analysis of pertinent data may be completed before I leave.

Your interest and cooperation in this study will be sincerely appreciated. Collection of data is now in process. Your consideration to the February 28 deadline is solicited. At the completion of this study, the findings will be made available to all participants.

Yours sincerely,

Clarence H. Preitz
Associate Professor

A.3 – BIBLIOGRAPHY OF TEXT AND REFERENCE BOOKS USED IN THE CHARTING PROCEDURE TO IDENTIFY ADDITIONAL FUNDAMENTAL ACTIVITIES

CLAY

Dougherty, John Wolfe. *Pottery Made Easy.* Milwaukee: The Bruce Publishing Co., 1944.

Duncan, Julia Hamlin, and D'Amico, Victor. *How to Make Pottery and Ceramic Sculpture.* New York: The Museum of Modern Art, 1947.

Griswold, Lester. *Handicraft Simplified Procedure and Projects.* Colorado Springs, Colorado: The Author, 1951.

Hofsted, Jolyon. *Step-By-Step Ceramics.* New York: Golden Press, 1967.

Hyman, Richard. *Ceramics Handbook.* Greenwich, Connecticut: Fawcett Publications, Inc., 1953.

Nelson, Glenn C. *Ceramics, A Potter's Handbook.* New York: Holt, Rinehart and Winston, 1960.

Sanders, Herbert H. *Sunset Ceramics Book.* Menlo Park, California: Lane Publishing Co., 1959.

LEATHER

Aller, Doris. *Sunset Leathercraft Book.* Menlo Park, California: Lane Publishing Co., 1957.

Cherry, Raymond. *General Leathercraft.* Bloomington, Illinois: McKnight & McKnight Publishing Co., 1955.

Groneman, Chris H. *Applied Leathercraft.* Peoria, Illinois: The Manual Arts Press, 1942.

Roseaman, I.P. *Leatherwork.* Peoria, Illinois: The Manual Arts Press, 1944.

Shalik, Harold. *The Complete Lacing Procedure for Occupational Therapy.* Knoxville, Iowa: Occupeutics Supplies Laboratory, Publications Division, 1955.

METALS

American Art Clay Company. *Metal Enameling.* Indianapolis: American Art Clay Company, 1954.

Baxter, William T., and Dake, Henry C. *Jewelry Gem Cutting and Metalcraft.* New York: McGraw-Hill Book Co., Inc., 1942.

Bruce, Leoroy F., and Meyer, Leo A. *Sheet Metal Shop Practice.* Chicago: American Technical Society, 1965.

Feirer, John L. *General Metals.* New York: McGraw-Hill Book Co., 1959.

Feirer, John L., and Lindbeck, John R. *I. A. Metal Work.* Peoria, Illinois: Chas. A. Bennett Co., Inc., 1965.

Fraser, Roland R., and Bedell, Earl L. *General Metal Principles, Procedures, and Projects.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1962.

Gentille, Thomas. *Step-By-Step Jewelry.* New York: Golden Press, 1968.

Hass, Louis J. *Art Metal Work and Jewelry.* White Plains, New York: The Author, 1940.

Hawkins, Leslie V. *Art Metal and Enameling.* Peoria, Illinois: Chas. A. Bennett Co., Inc., 1967.

Kramer, Karl Robert, And Kramer, Nora. *Coppercraft and Silver Made at Home.* New York: Greenberg Publisher, 1957.

Ludwig, Oswald A. *Metal Work Technology and Practice.* Rev. by Earl A. Ludwig. Bloomington, Illinois: McKnight & McKnight Publishing Co., 1962.

Martin, Charles J., and D'Amico, Victor. *How to Make Modern Jewelry.* New York: The Museum of Modern Art, 1960.

Pack, Greta. *Jewelry and Enameling.* New York: D. Van Nostrand Co., Inc., 1947.

Siegner, Vernon C. *Art Metals.* Chicago: The Goodheart-Willcox Co., Inc., 1961.

PAPER

Carlsen, Darvey, *Graphic Arts.* Peoria, Illinois: Chas. A. Bennett Co., Inc., 1965.

Cleeton, Glen U., and Pitkin, Charles W. *General Printing.* Revised by Raymond L. Cornwell. Bloomington, Illinois: McKnight & McKnight Publishing Co., 1957.

Hague, C.W. *Printing and Allied Graphic Arts.* Milwaukee: The Bruce Publishing Co., 1957.

Kagy, Frederick D. *Graphic Arts.* Chicago: The Goodheart-Willcox Co., Inc., 1961.

Karch, Randolph R. *Printing and the Allied Trades.* New York: Pitman Publishing Co., 1962.

Kosloff, Albert. *The Art and Craft of Screen Process Printing.* Milwaukee: The Bruce Publishing Co., 1960.

PLASTICS

Cherry, Raymond. *General Plastics Projects and Procedures.* Bloomington, Illinois: McKnight & McKnight Publishing Co., 1967.

Cope, Dwight W., And Conaway, John O. *Plastics.* Homewood, Illinois: The Goodheart-Willcox Co., Inc., 1966.

Groneman, Chris H. *Plastics Made Practical.* Milwaukee: The Bruce Publishing Co., 1953.

Working with Plexiglas. Philadelphia: Rohm & Haas Company, 1947.

WOODS

Feirer, John L. *I. A. Bench Woodworking.* Peopria, Illinois: Chas. A. Bennett Co., Inc., 1965.

Feirer, John L. *Advanced Woodwork and Furniture Making.* Peoria, Illinois: Chas. A. Bennett Co., Inc., 1960.

Holtrop, William F., And Hjorth, Herman. *Modern Machine Woodworking.* Milwaukee: The Bruce Publishing Co., 1960.

Holtrop, William F., and Hjorth, Herman. *Operation of Modern Woodworking Machines.* Milwaukee: The Bruce Publishing Co., 1958.

Shea, John Gerald. *Woodworking for Everybody.* Princeton, New Jersey: D. Van Nostrand Co., Inc., 1961.

Smith, Robert E. *Machine Woodworking.* Boomington, Illinois: McKnight & McKnight Publishers, 1948.

Stanley Tools. *How to Work with Tools and Wood.* New Britain, Connecticut: The Company, 1942.

Wagner, Willis H. *Modern Woodworking Tools, Materials and Procedures.* Homewood, Illinois: The Goodheart-Willcox Co., Inc., 1967.

TEXTILES

Aller, Doris. *Handmade Rugs.* Menlo Park, California: Lane Publishing Co., 1959.

Amon, Mary Ruth, and Rawson, Ruta Holtz. *Handcrafts Simplified.* Bloomington, Illinois: McKnight & McKnight Publishing Co., 1961.

Black, Mary E. *New Key to Weaving.* Milwaukee: The Bruce Publishing Co., 1957.

Brinley, Rosemary. *Rugmaking.* New York: Dover Publications, Inc., 1952.

Carroll, Alice, ed. *The Goodhousekeeping Needlecraft Encyclopedia.* New York: Stanford House, 1947.

Davison, Marguerite Porter. *A Handweaver's Pattern Book.* Allentown, Pennsylvania: Schlechter's, 1944.

Overman, Ruth, and Smith, Lula. *Contemporary Handweaving.* Ames, Iowa: The Iowa State College Press, 1955.

Phillips, Mary Walker. *Step-By-Step Knitting.* New York: Golden Press, 1967.

Van Cleve, Kate. *Hand Loom Weaving for Amateurs.* Boston: The Beacon Press, Inc., 1943.

Zechlin, Ruth. *Complete Book of Hand Craft.* Boston: Branford, 1959.

Znamierowski, Nell. *Step-By-Step Weaving.* New York: Golden Press, 1967.

APPENDIX B

This appendix contains samples of all correspondence to individuals involved in selecting sites, the centers visited in the investigation, and a sample of the Survey Instrument used to collect data during site visits. This appendix is organized according to the following plan:

1. List of department chairmen received from the Director of Professional Educational Services of the American Occupational Therapy Association in each geographic area and city selected for site visits.
2. List of treatment centers selected for site visits.
3. Correspondence with administrative personnel of centers selected for site visits.
4. A copy of the Survey Instrument used to collect pertinent patient and therapist data.

B.1 – LIST OF DEPARTMENT CHAIRMEN IN EACH GEOGRAPHIC AREA AND URBAN CENTER SELECTED FOR SITE VISITS

Geographic Area and City	Department Chairman
Northeast Boston, Massachusetts	Associate Professor Veronica C. Dobranske, Ed.M., O.T.R. Chairman, Department of Occupational Therapy Tufts University-Boston school of Occupational Therapy 136 Harrison Avenue Boston, Massachusetts 02111
New York, New York	Associate Professor Marie Louise Franciscus, M.A., O.T.R. Director, Courses in Occupational Therapy Columbia University College of Physicians and Surgeons 630 West 168th Street New York, New York 10032
Southeast Washington, D.C.	Associate Professor Cornelius A. Kooiman, M.A., O.T.R. Director, School of Occupational Therapy Richmond Professional Institute 901 West Franklin Street Richmond, Virginia 23220
North Central Chicago, Illinois	Associate Professor Beatrice D. Wade, B.A., O.T.R. Head, Occupational Therapy Department University of Illinois College of Medicine School of Associated Medical Sciences 1853 West Polk Street Chicago, Illinois 60612
South Central St. Louis, Missouri	Assistant Professor Martha E. Matthews, B.A., O.T.R. Washington University School of Medicine 4567 Scott Avenue St. Louis, Missouri 63110
South Mountain Houston, Texas	Assistant Professor Ruth W. Pershing, M.A., O.T.R. Director, School of Occupational Therapy Texas Woman's University Denton, Texas 76201

North Pacific Seattle, Washington	Jennie A. Lucci, M.A., O.T.R. Head, Division of Occupational Therapy University of Washington School of Medicine CC–814, University Hospital Seattle, Washington 98105
South Pacific San Francisco, California	Associate Professor Anne Murany, M.A., O.T.R. Chairman, Occupational Therapy Department San Jose State College San Jose, California 95114

B.2 – LIST OF TREATMENT CENTERS SELECTED FOR SITE VISITS WITH NAME OF ADMINISTRATIVE PERSONNEL

Address of Treatment Center	Administrative Personnel
Presbyterian-St. Luke's Hospital 1753 West Congress Chicago, Illinois 60612	Mr. Gail L. Warden Vice President for Administration Mrs. Laurann Cheifetz, O.T.R. Director, Psychiatric Occupational Therapy
Chicago Wesley Memorial Hospital 250 East Superior Chicago, Illinois 60611	Mr. Kenneth Hartman Superintendent Mrs. Elaine Kizzian, O.T.R. A/Director, Psychiatry
Michael Reese Hospital 2929 South Ellis Chicago, Illinois 60616	Mr. William J. Silverman Director Miss Elizabeth Harvey, O.T.R. Director, Occupational Therapy
Schwab Rehabilitation Hospital 1401 South California Boulevard Chicago, Illinois 60608	Mr. Herber Kirkel Administrative Director Miss Juanita Ainsley, O.T.R. Director, Occupational Therapy
Veterans Administration Hospital 4435 Beacon South Seattle, Washington 98108	Dr. D.E. Nolan Hospital Director Mrs. Carol Wick, O.T.R. Director, Occupational Therapy
Children's Orthopedic Hospital and Medical Center 4800 Sandy Point Way Northwest Seattle, Washington 98105	Mr. George Stone Administrator Mrs. Joann Bryan, O.T.R. Director, Occupational Therapy
University Hospital Seattle, Washington 98105	Dr. Justus Lehmann Professor and Chairman Department of Physical Medicine and Rehabilitation Mrs. Marilyn Wittmeyer, Head Rehabilitation Center Unit Mrs. Glenda Fankhauser Head of Psychiatric Unit

King County Harborview Hospital 325 9th Avenue Seattle, Washington 98104	Mr. William L. Branson Hospital Administrator Mrs. Wanda Harris, O.T.R. Supervisor
Children's Hospital and Adult Medical Center 3700 California Street San Francisco, California 94119	Mr. Roland Wick, Administrator Miss Geraldine Mayer, O.T.R.
Crystal Springs Rehabilitation Center 1100 Polhemus Road San Mateo, California 94402	Mr. Einor Nordby Superintendent Mrs. Helen Harper, O.T.R.
Stanford Children's Convalescent Hospital 520 Willow Road Palo Alto, California 94304	Dr. Harry Jennison, M.D. Medical Director Miss Ida Lou Coley, O.T.R. Chief Occupational Therapist
Veterans Administration Hospital 3801 Miranda Avenue Palo Alto, California 94304	Dr. Abraham Gottlieb, M.D. Medical Director Mr. John O'Leary, O.T.R.
Texas Institute for Rehabilitation and Research 1333 Moursund Avenue Houston, Texas 77025	Dr. R.E. Carter Medical Director Miss Mary Newson, O.T.R. Supervisor, Occupational Therapy
Veterans Administration 2002 Holcombe Boulevard Houston, Texas 77031	Dr. John W. Claiborne Medical Director Mrs. Lucille Lacy, O.T.R. Chief Occupational Therapist
The Methodist Hospital 1300 Moursund Avenue Houston, Texas 77025	Mr. Ted Bowen Administrator Mrs. Jean Dillon, O.T.R. Director, Occupational Therapy
Texas Research Institute for Mental Sciences 1300 Moursund Avenue Houston, Texas 77025	Dr. Moody C. Bettis Administrator Mrs. Melva Shelton, O.T.R. Supervisor, Rehabilitation Therapy

Saint Louis State Hospital 5400 Arsenal Street St. Louis, Missouri 63139	Dr. R.R. Knowles Superintendent Miss Mary Britton, O.T.R. Director, Occupational Therapy
Jewish Center for Aged 4518 Blair Avenue St. Louis, Missouri 63107	Mr. Samuel Zibit Executive Director Miss Joann Brown, O.T.R. Director, Occupational Therapy
The Jewish Hospital of St. Louis 216 South Kingshighway St. Louis, Missouri 63110	Mr. David A. Gee Executive Director Mrs. Sidney Rothenberg, O.T.R. Director, Occupational Therapy
Barnes Hospital Barnes Hospital Plaza St. Louis, Missouri 63110	Mr. Joseph Greco Associate Director Mrs. Marion Warack, O.T.R. Activity Therapy Coordinator
District of Columbia General Hospital 19th St. and Massachusetts Ave., S.E. Washington, D.C. 20003	Dr. John P. Nasou, M.D. Medical Director Miss Joan Bellman, O.T.R. Director, Occupational Therapy
Saint Elizabeth's Hospital Nichols Avenue, S.E. Washington, D.C. 20032	Dr. Dale C. Cameron, M.D. Director Mrs. Rosabelle French Chief Occupational Therapist
Walter Reed General Hospital Georgia Avenue and Butternut Street Washington, D.C. 20315	Colonel Winnifred E. Soady Chief, Occupational Therapy Section Lt. Col. Eileen O'Brien, Chief Occupational Therapy Section Lt. Col. Elizabeth Nachod Chief Occupational Therapist
D.C. Society for Crippled Children and Adults 2800 13th Street, N.W. Washington, D.C. 20009	Dr. William P. Argy, M.D. Medical director Miss Karen Wood, O.T.R. Director, Occupational Therapy

St. Vincent's Hospital and Medical Center of New York 7th Avenue and 11th Street New York, New York 10011	Sister Anthony Marie Administrator Miss Jenifer Thuell, O.T.R. Head Occupational Therapist
Institute of Rehabilitation Medicine 400 East 34th Street New York, New York 10016	Dr. Howard A. Rusk, M.D. Director Mrs. Phyllis Palsgrove Supervisor of Clinical Affiliations Mrs. Sophis K. Chiotelis, O.T.R. Director, Occupational Therapy Service
Jacobi Hospital Pelham Parkway & Eastchester Road Bronx, New York 10461	Dr. Eva S. Vandow, M.D. Executive Medical Administrator Miss Stephanie Presseller, O.T.R. Chief, Occupational Therapy Rehabilitation Service
The Presbyterian Hospital 622 West 168th Street New York, New York 10032	Mr. A.J. Binkert Executive Vice President Mrs. Eleanor Shelly, O.T.R. Director, Occupational Therapy
Boston State Hospital 591 Morton Street Boston, Massachusetts 02021	Dr. Johnathan C. Cole, M.D. Administrator Miss Frances Carr, O.T.R. Head Occupational Therapist
Massachusetts Hospital School Canton, Massachusetts 02021	Dr. William McHugh, M.D. Administrator Miss Katharine Rand, O.T.R. Head Occupational Therapist
Rehabilitation Institute New England Medical Center Hospitals 185 Harrison Avenue Boston, Massachusetts 02111	Dr. Carl Granger, M.D. Physician-in-Chief Mrs. Harriet Gordon, O.T.R. Director, Occupational Therapy
Cushing Hospital Framingham, Massachusetts 01702	Dr. David M. Banen, M.D. Administrator Miss Lorretta McCann, O.T.R. Head Occupational Therapist

WAYNE STATE UNIVERSITY

SCHOOL OF MEDICINE

DIVISION OF OCCUPATIONAL THERAPY
261 MACK BOULEVARD
DETROIT, MICHIGAN 48201

B.3 – CORRESPONDENCE WITH HOSPITAL ADMINISTRATORS SOLICITING THEIR COOPERATION FOR SITE VISITS

August 14, 1968

Dear

Miss Beatrice D. Wade, Head, Curriculum in Occupational Therapy, University of Illinois, and I have been corresponding concerning treatment centers in the Chicago area that she felt should be visited as a phase of a recently funded research project. In her reply, Miss Wade was kind enough to give your name as a director of a hospital which has an outstanding occupational therapy department offering a comprehensive program as part of its rehabilitation medicine.

The funded research project, previously mentioned, is being conducted by Wayne State University from funding through the Social and Rehabilitation Service, Department of Health, Education, and Welfare, United States Office of Education. This study is being conducted to determine what the goals and basic units of instruction "ought to be" for treatment media courses. It is hoped the results of this research may be used to organize and to sequence learning experiences for occupational therapy students enrolled in thirty-one accredited college curricula.

I have enclosed Section 4 of the research design to better acquaint you with the study, and to explain your role, that of your patients, and your therapist in this investigation. You will note that the plan calls for site visits to eight geographical areas of the Nation. It is my objective, during these visits, to observe patients of different age groups, with varying types of physical or psychosocial dysfunction, and patients with varying degrees of illness as they perform fundamental activities used in their treatment programs. Following these observations, therapists responsible for teaching and supervising these patients will be asked to respond to an interview schedule concerned with professional preparation, activity substitution, and the role of the therapist in performing ancillary responsibilities.

I would like, therefore, to solicit your cooperation in arranging for me to observe patients in your hospital and to visit with therapists to collect the needed data. These data would be considered, of course, "privileged information" by the research staff.

Since I hope to be working in concert with therapists and patients while I am visiting your center, I have taken the liberty of sending a similar letter to Miss Elizabeth Harvey, O.T.R., who gives direction to your fine program.

An early reply would be appreciated so that a time for these visits can be established. My tentative schedule for these visits indicates that I would like to be in Chicago during the first week in September.

Sincerely yours,

Clarence H. Preitz
Research Associate

B.4 - A COPY OF THE SURVEY INSTRUMENT

INTERVIEW SCHEDULE

☐	☐	☐	☐	☐	0	0	0	0	1	b
1	2	3	4	5	6	7	8	9	10	11

1. Number of therapists in department ☐☐ 12-13

2. Sex: Female 1
Male 2 ☐ 14

3. Responsibility - Enter "1" in box if true

Department Chairman ☐ 15

Supervisor of Clinical Practice ☐ 16

Practicing O.T. ☐ 17

Other ☐ 18

4. Years of experience in O.T.

Clinical ☐☐ 19-20

Administration ☐☐ 21-22

Supervision ☐☐ 23-24

Higher Education ☐☐ 25-26

Other ☐☐ 27-28

5. Year of graduation ☐☐ 29-30

6. O.T. school ☐☐ 31-32

7. Year of registration ☐☐ 33-34

8. In addition to professional registration, what is the highest degree you have earned?
Bachelor's 1
Master's 2
Doctorate 3
Other 4 ☐ 35

9. What were the media you had instruction in to prepare you with the necessary skills to teach the various activities to patients?

Cane ☐ 36

Clay ☐ 37

Leather ☐ 38

Metals ☐ 39

Paper ☐ 40

Plastics ☐ 41

Textiles ☐ 42

Wood ☐ 43

Other ☐ 44

10. What treatment media courses did you have as a student and who was responsible for teaching these courses to occupational therapy students?

		C.T.	
Art Metalworking	01	☐☐	45-46
Basketry	02	☐☐	47-48
Bench Metalworking	03	☐☐	49-50
Bookbinding	04	☐☐	51-52
Ceramics	05	☐☐	53-54
Drawing & Design	06	☐☐	55-56
Fine Arts (all forms)	07	☐☐	57-58
Leatherworking	08	☐☐	59-60
Needlecraft	09	☐☐	61-62
Plastics	10	☐☐	63-64
Printing	11	☐☐	65-66
Rugmaking	12	☐☐	67-68
Weaving	13	☐☐	69-70
Woodcarving	14	☐☐	71-72
Woodworking	15	☐☐	73-74
Other	16	☐☐	75-76

FA = 1
HE = 2
IA = 3
OT = 4
TE = 5

					0	0	0	0	2	b
1	2	3	4	5	6	7	8	9	10	11

11. What other teaching skills and related competencies do you think should be taught in treatment media courses to better prepare students for the profession?

Teaching Skills:

Motivating the patient ☐ 12
Maintaining patient's interest ☐ 13
Promoting patient to think ☐ 14
Creating clear picture of activity ☐ 15
Teaching techniques ☐ 16
Other ☐ 17

Knowledge of Media:

Physical characteristics of media ☐ 18
Limitations of media ☐ 19
Combining of media ☐ 20
Gradation of media ☐ 21
Other ☐ 22

Attitudes:

Safety ☐ 23
Conservation of material ☐ 24
Cooperation with peers ☐ 25
Patient self-reliance ☐ 26
Care of equipment ☐ 27
Good work habits ☐ 28
Other ☐ 29

Understandings:

Scientific principles involved with hand and power tools ☐ 30
Concepts involved with tools, materials and processes ☐ 31
Other ☐ 32

Methods of Presenting Media to Patients:

Questioning ☐ 33
Demonstration - performance ☐ 34
Instruction sheets ☐ 35
Closed circuit television ☐ 36
Supervised performance ☐ 37
Visual presentation ☐ 38
Programmed instruction ☐ 39
Other ☐ 40

Willingness to Accept Responsibility ☐ 41

Resourcefulness:

Adapting tools to patients' physical needs ☐ 42
Designing adaptive devices ☐ 43
Other ☐ 44

12. In addition to teaching and supervising the patients as they perform the various activities in their treatment programs, what other of the following ancillary responsibilities do you perform?

Tool sharpening ☐ 45
Routine preventive maintenance ☐ 46
Reconditioning of equipment ☐ 47
Requisitioning of expendable supplies ☐ 48
Requisitioning of capital equipment ☐ 49
Other ☐ 50

AI = 1
COTA = 2
OT = 3
TE = 4

1	2	3	4	5	6	7	8	9	10	11
									3	

13. Sex:

Female	1	
Male	2	☐ 12

14. Dysfunction:

Physical	1	
Psychosocial	2	☐ 13

15. In attempting to achieve your treatment objective with patients, what activity do you use?

Art Metalworking	01	
Basketry	02	
Bench Metalworking	03	
Bookbinding	04	
Ceramics	05	
Drawing & Design	06	
Fine Arts (all forms)	07	
Leatherworking	08	
Needlecraft	09	
Plastics	10	
Printing	11	
Rugmaking	12	
Weaving	13	
Woodcarving	14	
Woodworking	15	
Other	16	☐☐ 14-15

16. I have just observed this patient (name Patient) who was performing activities with (name medium). What was your major objective in using those particular activities with this patient?

Diagnostic tool	01	
Restoration of physical function	02	
Maintain or increase range of motion	03	
Maintain or increase muscle strength	04	
Maintain, develop, or improve coordination	05	
Develop work tolerance	06	
Reestablish special skills	07	
Prevocational exploration	08	
As a supportive measure	09	
Redirection of avocational interests	10	
Socialization	11	
Improvement of endurance	12	
Other	13	☐☐ 16-17

17. Is there another activity that could be used to achieve the same therapeutic objective?

Art Metalworking	01	
Basketry	02	
Bench Metalworking	03	
Bookbinding	04	
Ceramics	05	
Drawing & Design	06	
Fine Arts (all forms)	07	
Leatherworking	08	
Needlecraft	09	
Plastics	10	
Printing	11	
Rugmaking	12	
Weaving	13	
Woodcarving	14	
Woodworking	15	
Other	16	☐☐ 18-19

18. Why wasn't this alternate activity used with the patient?

Not selected by patient	1	
Not recommended by supervising O.T.	2	
Lack of therapist's experience	3	
Lack of supplies	4	
Lack of equipment	5	
Experience, but lack of confidence of therapist	6	
Other	7	☐ 20

Classification of facility	☐☐ 21 22
Location of treatment	☐ 23
Paraprofessional personnel	☐ 24

19. Type of Physical Dysfunction:

Upper extremity	☐ 25
Lower extremity	

									4	1
1	2	3	4	5	6	7	8	9	10	11

CHAIR SEATING ACTIVITIES

Preparing

- Moisten cane ☐ 12
- Prepare chair for recaning ☐ 13
- Drill holes for cane with hand drill ☐ 14
- Make pegs from dowel rod ☐ 15

Assembling

- Straight weave cane ☐ 16
- Hold cane with tapered pegs ☐ 17
- Form diagonals ☐ 18
- Tie ends of cane ☐ 19
- Trim off surplus cane ☐ 20
- Bind off finished cane ☐ 21
- Cut cane with shears ☐ 22

Finishing

- Apply proper finish to cane surface ☐ 23

1 of 1

☐	☐	☐	☐	☐	☐	☐	☐	☐	4	2
1	2	3	4	5	6	7	8	9	10	11

CERAMIC ACTIVITIES

Preparing

Prepare clay ☐ 12

Prepare slip ☐ 13

Wedge clay ☐ 14

Make a case ☐ 15

Make size ☐ 16

Apply size ☐ 17

Mix and pour plaster of Paris ☐ 18.

Make a mold from an orginal ☐ 19

Make one-piece mold ☐ 20

Make two-piece mold ☐ 21

Make a plaster bat ☐ 22

Turn wood pattern on wood lathe ☐ 23

Make a press mold ☐ 24

Forming

Coil construction ☐ 25

Slab construct ☐ 26

Slab sculpture ☐ 27

Press mold and finish product ☐ 28

Sculpture ☐ 29

Slip casting ☐ 30

Hollow inside, sculpture ☐ 31

Make armature for model ☐ 32

Make a pinch piece ☐ 33

Coil construct a figure ☐ 34

Form appendages ☐ 35

Jigger flatenware ☐ 36

Jolly hollow ware ☐ 37

Make jiggering molds and templates ☐ 38

Throw on potters wheel ☐ 39

Size and true on potters wheel ☐ 40

Decorate By

Decorate bisque ware by underglaze ☐ 41

Painting and glaze application ☐ 42

Remove fettle from casting ☐ 43

Smooth contours by pinching up and sponging ☐ 44

Mix glaze from ingredients ☐ 45

Apply glaze with brush ☐ 46

Grind off glaze and remove scars from foot of glazed ware ☐ 47

Dip a glaze ☐ 48

Spray a glaze ☐ 49

Greenware ☐ 50

Decalomanias ☐ 51

Texture surface ☐ 52

Sgraffito ☐ 53

Slip trailing ☐ 54

Stamp ☐ 55

Assembling

Append, spout, cover or handle ☐ 56

Mend cracks ☐ 57

Finishing

Prepare surfaces of kiln for loading ☐ 58

Set a bisque kiln ☐ 59

Set a glost kiln ☐ 60

Fire a kiln ☐ 61

Determine internal temperature of kiln ☐ 62

Draw a kiln ☐ 63

1 of 1

☐	☐	☐	☐	☐	☐	☐	☐	☐	4	3
1	2	3	4	5	6	7	8	9	10	11

LEATHERWORKING ACTIVITIES

Preparing

- Plan procedure ☐ 12
- Design, modify projects ☐ 13
- Make pattern for design ☐ 14
- Transfer design ☐ 15
- Make patterns, gloves, etc. ☐ 16
- Cut to line with leather shears ☐ 17
- Cut to line with swivel knife ☐ 18
- Skive edges ☐ 19
- Punch for lacing ☐ 20
- Crease edges ☐ 21
- Prepare leather for tooling and carving ☐ 22
- Prepare leather for stamping ☐ 23
- Do outline tooling ☐ 24
- Bevel edges ☐ 25
- Make insert gussets ☐ 26
- Do simple carving ☐ 27
- Do bevel tooling ☐ 28
- Do flat modeling ☐ 29
- Use initial letters ☐ 30
- Do stamping ☐ 31
- Do punched, cutout work ☐ 32
- Do reposse tooling ☐ 33
- Do background stamping ☐ 34
- Stipple background ☐ 35
- Color and dye leather ☐ 36
- Sharpen and recondition tools ☐ 37

Assembling

- Cement leather ☐ 38
- Set snap fasteners ☐ 39
- Set eyelets and grommets ☐ 40
- Rivet with speedy rivets ☐ 41
- Cement linings ☐ 42
- Attach bag plates ☐ 43
- Attach zippers ☐ 44
- Machine sew leather ☐ 45
- Hand sew leather ☐ 46
- Cut lacing with knife ☐ 47
- Single buttonhole lacing ☐ 48
- Whip stitch lacing ☐ 49
- Double layover lacing ☐ 50
- Triple layover lacing ☐ 51
- Florentine lacing ☐ 52
- Splice lace ☐ 53

Finishing

- Clean leather with saddle soap ☐ 54
- Apply bag dressing ☐ 55
- Apply leather lacquer ☐ 56
- Stain and dye leather ☐ 57

1 of 1

									4	4
1	2	3	4	5	6	7	8	9	10	11

METAL ENAMELING ACTIVITIES

Preparing

Gauge metal ☐ 12
Transfer pattern ☐ 13
Cut to line with snips ☐ 14
Cut to line with jewelers' saw ☐ 15
File to shape ☐ 16
Shape piece with mallet ☐ 17
Anneal metal ☐ 18
Clean metal, heat ☐ 19
Clean metal, chemically ☐ 20
Apply gum solution ☐ 21
Clean and polish ☐ 22
Drill with hand drill ☐ 23
Prepare enamel for use ☐ 24
Sift enamel on surface ☐ 25
Decorate surface ☐ 26
Sift and stencil ☐ 27
Grisaille ☐ 28
Cloisonne ☐ 29
Sgraffito ☐ 30
Pliqu-a-jour ☐ 31
Paillons ☐ 32
Spray enamels ☐ 33
Clean and polish ☐ 34
Buff edges and surface ☐ 35
Polish with rouge paste ☐ 36
Stone a fired piece ☐ 37
Repair flaws in enamel ☐ 38

Finishing

Preheat kiln ☐ 39
Transfer work to trivet ☐ 40
Determine approximate internal temperature of kiln ☐ 41
Draw kiln ☐ 42

Assembling

Attach findings ☐ 43
Hard solder ☐ 44
Soft solder ☐ 45

BENCH METALWORKING ACTIVITIES

Preparing

Color with copper sulphate solution for layout ☐ 46
Use a scribe in layout ☐ 47
Layout distances and areas with dividers ☐ 48
Use chalk in laying out ☐ 49
Measure with a rule ☐ 50
Use a center punch ☐ 51
Use inside calipers ☐ 52
Use outside calipers ☐ 53
Layout work for centers on round stock ☐ 54
Cut stock in power bandsaw ☐ 55
Cut contours with power bandsaw ☐ 56
Saw to line with hacksaw ☐ 57
Replace and adjust hacksaw blade ☐ 58
Shear metal with a cold chisel ☐ 59
File a surface ☐ 60
Draw file ☐ 61
File an edge ☐ 62
Clean file with file card ☐ 63
Drill holes with drill press ☐ 64

1 of 5

									4	4
1	2	3	4	5	6	7	8	9	10	11

Countersink holes with drill press ☐ 65

Adjust die stock ☐ 66

Cut threads with die ☐ 67

Tap hole ☐ 68

Assembling

Assemble with rivets ☐ 69

Set rivets ☐ 70

Finishing

Polish with emery dust ☐ 71

Polish on drill press ☐ 72

ART METALWORKING ACTIVITIES

Preparing

Gauge metal ☐ 73

Design, modify or adapt project ☐ 74

Layout pattern ☐ 75

Make and use templates ☐ 76

Transfer a pattern ☐ 77

Measure curves ☐ 78

Clean metal, chemically ☐ 79

Reduce wire with drawplate ☐ 80

☐	☐	☐	☐	☐	☐	☐	☐	☐	5	4
1	2	3	4	5	6	7	8	9	10	11

Cut to line with snips ☐ 12
Saw to line with jewelers' saw ☐ 13
File metal, edges ☐ 14
Saw to line with hacksaw ☐ 15
Beat metal into forms ☐ 16
Shape metal on sandbag ☐ 17
Raise by wrinkling ☐ 18
Raise with modeling (foil) ☐ 19
Raise over wood block ☐ 20
Raise metal over stake ☐ 21
Anneal metal ☐ 22
Bend square corners over stake ☐ 23
Raise a design ☐ 24
Form a bezel ☐ 25
File a flat on round surface ☐ 26
Drill holes with drill press ☐ 27
Drill holes with hand drill ☐ 28
Prick work with center punch ☐ 29
Background decoration (foil) ☐ 30
Decorate edges of metal ☐ 31
Flute metal ☐ 32
Etch metal ☐ 33
Planish a surface ☐ 34
Apply overlays ☐ 35
Make pierced designs ☐ 36
Decorate by doming ☐ 37
Decorate by repousse ☐ 38
Chase a design ☐ 39
Copper tooling (foil) ☐ 40
Stamp a design ☐ 41

Assembling

Solder with blowpipe ☐ 42
Soft solder ☐ 43
Silver solder ☐ 44
Solder aluminum ☐ 45
Mount fittings ☐ 46
Fasten with rivets ☐ 47
Secure foot to body ☐ 48
Sweat solder a joint ☐ 49
Set a stone ☐ 50
Binding wire - its use in soldering ☐ 51
Tin soldering iron ☐ 52

Finishing

Polish with abrasives ☐ 53
Wax or lacquer metal ☐ 54
Color by oxidation ☐ 55
Color with chemicals ☐ 56
Buff metal with rouge paste ☐ 57
Machine buff ☐ 58

SHEET METALWORKING ACTIVITIES

Preparing

Gauge metal ☐ 59
Transfer pattern (prick punch method) ☐ 60
Use a circumference rule ☐ 61

Forming

Cut metal with tin snips ☐ 62
Shear metal with cold chisel ☐ 63
Cut metal with hacksaw ☐ 64
Shear compound curves with unishear ☐ 65
File an edge ☐ 66

3 of 5

☐	☐	☐	☐	☐	☐	☐	☐	☐	5	4
1	2	3	4	5	6	7	8	9	10	11

Operate squaring shears ☐ 67

Use a bar folder ☐ 68

Use a box pan brake ☐ 69

Break metal in forming roll ☐ 70

Use a bench punch ☐ 71

Use a corner notcher ☐ 72

Use a turning machine to prepare edge for wire ☐ 73

Wire an edge on a conical piece ☐ 74

Wire a straight edge ☐ 75

Wire top of a cylindrical piece ☐ 76

Wire top of conical piece ☐ 77

Turn a burr with a burring machine ☐ 78

Use a burring machine to turn burr on a bottom ☐ 79

Use a hand groover ☐ 80

4 of 5

☐	☐	☐	☐	☐	☐	☐	☐	☐	6	4
1	2	3	4	5	6	7	8	9	10	11

Use a hand seamer ☐ 12
Make a flange ☐ 13
Make a lock seam ☐ 14
Double seam a bottom ☐ 15
Form bead on pipe ☐ 16
Crimp end of pipe ☐ 17
Form small cylinder on stake ☐ 18
Raise metal with bumping hammer ☐ 19
Form conical shapes on suitable stakes ☐ 20
Form a 90° edge on stake ☐ 21
Diagonal bend to reinforce ☐ 22

Assembling

Use an electric spot welder ☐ 23
Flow solder in a seam ☐ 24
Sweat solder ☐ 25
Hard solder ☐ 26
Soft solder ☐ 27
Heat soldering copper in furnace ☐ 28
Tin a soldering copper ☐ 29
Use a klik-set riveter ☐ 30
Use binding head screws ☐ 31

1	2	3	4	5	6	7	8	9	10	11
☐	☐	☐	☐	☐	☐	☐	☐	☐	4	5

PLASTIC ACTIVITIES

Preparing

Make plan of procedure	☐	12
Design, modify, or adapt project	☐	13
Layout stock	☐	14
Transfer pattern	☐	15
Saw to line with coping saw	☐	16
Saw to line with backsaw	☐	17
Saw to line with scroll saw	☐	18
Saw to line with bandsaw	☐	19
Saw to line with table saw	☐	20
Shape with file	☐	21
Shape with disc sander	☐	22
Shape with sandpaper	☐	23
Shape with needle files	☐	24
Cut grooves with table saw	☐	25
Internal carve with a flexible shaft machine	☐	26
Heat and form	☐	27
Turn knobs and pulls on metal lathe	☐	28
Pierce saw with coping saw	☐	29
Drill holes with drill press	☐	30
Drill hole with hand drill	☐	31
Plug and ring	☐	32
Drape form	☐	33
Dye surface	☐	34
Cement with laminating dye	☐	35
Dye and fill carving cavity	☐	36
Overlay	☐	37
Inlay	☐	38

Assembling

Mechanical fasteners	☐	39
Chemical fasten	☐	40

Finishing

Hand buff edge - liquid abrasive	☐	41
Flame polish	☐	42
Abrasive and machine buff	☐	43
Hand-sand edge with abrasive paper	☐	44
Use a stencil for painting and decorating	☐	45
Buff a surface	☐	46

1 of 1

									4	6
1	2	3	4	5	6	7	8	9	10	11

PRINTING ACTIVITIES

Preparing

- Design project to be composed ☐ 12
- Choose appropriate type face ☐ 13

Assembling

- Assemble composing stick to hold job ☐ 14
- Compose type from California job case ☐ 15
- Space line with spacing material ☐ 16
- Justify line of type ☐ 17
- Dump the stick in galley ☐ 18
- Make corrections ☐ 19
- Tie up form ☐ 20
- Make indentations ☐ 21
- Set lines of poetry ☐ 22
- Make simple form ☐ 23
- Align figures ☐ 24
- Align rule with type ☐ 25
- Use multiple justification ☐ 26
- Set two-way rules in one form ☐ 27
- Lock form in chase with quoins and furniture ☐ 28
- Prepare platen for run ☐ 29
- Locate gage pins on tympan ☐ 30
- Insert packing and put on tympan ☐ 31
- Ink press by distributing ink on ink disk ☐ 32

Finishing

- Pull proof on proof press ☐ 33
- Make corrections in form ☐ 34
- Feed hand lever press ☐ 35
- Clean, wash up, oil press ☐ 36
- Feed foot operated press ☐ 37

LINOLEUM BLOCK PRINTING ACTIVITIES

Preparing

- Cut to size in miter box, or with handsaw ☐ 38
- Cut linoleum to size with linoleum knife ☐ 39
- Transfer design using tracing paper or carbon paper ☐ 40
- Chemical fasten linoleum to wood block ☐ 41
- Use gouge to remove background ☐ 42
- Use veiner to make line contrast ☐ 43
- Print proof for proof reading ☐ 44
- Print cut using mallet ☐ 45

Finishing

- Apply ink to block ☐ 46
- Print cut using book press ☐ 47
- Print cut using hand printing press ☐ 48
- Print proof with spoon or brayer ☐ 49

SILK SCREENING ACTIVITIES

Preparing

- Make a silk screen frame ☐ 50
- Attach silk to screen ☐ 51
- Cut stencil with knife ☐ 52
- Attach cut stencil to screen ☐ 53
- Force ink through silk with squeegee ☐ 54

Finishing

- Print with free frame ☐ 55
- Register to print (2 color) ☐ 56
- Print with jig ☐ 57
- Clean up ☐ 58

1 of 1

☐	☐	☐	☐	☐	☐	☐	☐	☐	4	7
1	2	3	4	5	6	7	8	9	10	11

NEEDLE CRAFTS

KNITTING ACTIVITIES

Preparing

Roll yarn into ball ☐ 12

Forming

Cast on stitches ☐ 13
Knit ☐ 14
Purl ☐ 15
Rib ☐ 16
Garter stitch ☐ 17
Increase ☐ 18
Decrease ☐ 19
Bind off ☐ 20
Pick up dropped stitches ☐ 21
Circular needles ☐ 22
Pick-up stitches ☐ 23
Join ends (no knots) ☐ 24

Finishing

Wash and block garment ☐ 25

BRAIDING ACTIVITIES

Forming

Round ☐ 26
4-strand diamond ☐ 27
Spiral pattern ☐ 28
6-strand ☐ 29
Square ☐ 30
4-strand square ☐ 31
4-strand square cutting corners ☐ 32

Endings

Turk's head ☐ 33

Whipped Slides:

4-strand round ☐ 34
Turk's head ☐ 35

SEWING ACTIVITIES

Preparing

Trace pattern with tracing wheel ☐ 36
Measure and cut a bias ☐ 37
Thread a needle ☐ 38
Sew a running stitch ☐ 39
Cut cloth to a pattern with scissors ☐ 40
Make a straight hem ☐ 41
Basting ☐ 42
Make a dart ☐ 43
Make a pleat ☐ 44
Make a plain tuck ☐ 45
Sew a buttonhole ☐ 46
Sew on buttons ☐ 47

Finishing

Assemble ☐ 48
Insert a zipper ☐ 49
Sew on snap fasteners ☐ 50
Sew on hooks and eyes ☐ 51

Embroidery Activities

Outline stitch ☐ 52
Blanket stitch ☐ 53
Satin stitch ☐ 54
Chain stitch ☐ 55
Feather stitch ☐ 56
Lazy daisy stitch ☐ 57
French knot stitch ☐ 58
Cross stitch ☐ 59
Hem stitch ☐ 60
Roll hem and fringe edge ☐ 61

1 of 3

☐	☐	☐	☐	☐	☐	☐	☐	☐	4	7
1	2	3	4	5	6	7	8	9	10	11

TOY MAKING ACTIVITIES

Preparing

- Layout pattern or template ☐ 62
- Cut pattern with appropriate cutting device ☐ 63
- Sew parts together ☐ 64
- Clip the edges ☐ 65
- Turn inside out ☐ 66

Assembling

- Add stuffing ☐ 67
- Sew opening for stuffing ☐ 68
- Assemble parts of toy ☐ 69
- Attach eyes and appendages on toy ☐ 70

Crocheting Activities

- Single ☐ 71
- Double ☐ 72
- Increase ☐ 73
- Decrease ☐ 74
- Straight piece and/or round center ☐ 75
- Chain ☐ 76
- Afghan ☐ 77
- Join ends of yarn ☐ 78
- Blocking ☐ 79

WEAVING ACTIVITIES

Preparing

- Make a pattern draft on graph paper ☐ 80

2 of 3

☐	☐	☐	☐	☐	☐	☐	☐	☐	5	7
1	2	3	4	5	6	7	8	9	10	11

WEAVING ACTIVITIES

Preparing (cont'd)

Make color chart for warp ☐ 12

Interpret drafts ☐ 13

Prepare draft with border ☐ 14

Wind warp on warp board or frame ☐ 15

Wind warp on reel ☐ 16

Beam the warp on a plain warp beam ☐ 17

Beam the warp on a sectional warp beam ☐ 18

Setting-up, loom-tying ☐ 19

Threading ☐ 20

Sleying ☐ 21

Tying-in to apron ☐ 22

Adjust tension ☐ 23

Weave on a table loom ☐ 24

Wind rug shuttle ☐ 25

Wind from skein winder ☐ 26

Wind flat shuttle ☐ 27

Wind bobbin for boat shuttle ☐ 28

Assembling

Weave the fabric ☐ 29

Wind web on cloth beam ☐ 30

Finishing

Remove fabric from loom ☐ 31

Process fabric ☐ 32

Weave colonial mat ☐ 33

Rug Making

Prepare burlap or canvas ☐ 34

Use rug hook ☐ 35

Use rug punch ☐ 36

Make a tufted rug ☐ 37

Make a woven rug ☐ 38

Make a braided rug ☐ 39

☐	☐	☐	☐	☐	☐	☐	☐	☐	4	8
1	2	3	4	5	6	7	8	9	10	11

WOODWORKING ACTIVITIES

Preparing

Design, modify, or adapt design ☐ 12
Read working drawing ☐ 13
Transfer design by square ☐ 14
Use templates ☐ 15
Layout curves with compass ☐ 16
Measure, divide with a rule ☐ 17
Layout pattern on stock ☐ 18
Layout and make duplicate parts ☐ 19
Divide spaces with dividers ☐ 20

Forming

Hand

Layout square cuts with carpenters square ☐ 21
Layout, miters with miter square ☐ 22
Layout angle, test with T bevel ☐ 23
Gage with marking gage ☐ 24
Gage lines with pencil ☐ 25
Use a miter box ☐ 26
Saw to a line with handsaw ☐ 27
Saw with coping saw ☐ 28
Saw to line with backsaw ☐ 29
Cut tapers with crosscut saw ☐ 30
Saw circle with hole saw ☐ 31
Scrape edge with hand scraper ☐ 32
Scrape surface with cabinet scraper ☐ 33
Plane an edge ☐ 34
Plane end grain ☐ 35
Plane a surface true ☐ 36
Square up stock with plane ☐ 37
Square edges, ends with a file ☐ 38
Shape irregular curves with a rasp ☐ 39
Rasp an edge ☐ 40
Test with try-square ☐ 41
Adjust block plane ☐ 42
Adjust jack plane ☐ 43
Trim, pare with chisel ☐ 44
Cut with spoke shave ☐ 45
Sand a face smooth ☐ 46
Sand curved surfaces ☐ 47
Drill holes with hand drill ☐ 48
Bore holes with brace and bit ☐ 49
Use expansive bit ☐ 50
Countersink holes with rosebud ☐ 51
Bore hole with gimlet bit ☐ 52
Bore hole with forstner bit ☐ 53
Cut mortise and tennon joint ☐ 54
Use bar clamps for edge gluing ☐ 55
Laminate surface with hand-screws ☐ 56
Do relief carving ☐ 57
Hollow surface with gouge ☐ 58
Sharpen hand tools ☐ 59
Sharpen an auger bit ☐ 60
Sharpen hand saw ☐ 61

Forming

Machine

Joint an edge with jointer ☐ 62
Joint end grain with jointer ☐ 63
Surface a face with jointer ☐ 64

									4	8
1	2	3	4	5	6	7	8	9	10	11

Make angle cuts with jointer	☐	65
Saw external lines Therasaw	☐	66
Saw internal lines Therasaw	☐	67
Adjust Therasaw	☐	68
Replace broken blade - Therasaw	☐	69
Rip stock - circular saw	☐	70
Crosscut stock - circular saw	☐	71
Cut taper - circular saw	☐	72
Cut to a line with bandsaw	☐	73
Resaw stock with bandsaw	☐	74
Rout an edge with router	☐	75
Rout with drill press	☐	76
Cut dado with circular saw	☐	77
Cut half-lap with circular saw	☐	78
Cut tongue and groove joint with circular saw	☐	79
Adjust tension of blade - bandsaw	☐	80

2 of 3

									5	8
1	2	3	4	5	6	7	8	9	10	11

Center stock in wood lathe ☐ 12

Angle cut stock circular saw ☐ 13

Cut rabbet joint with circular saw ☐ 14

Mount stock between centers ☐ 15

Rough stock down with gouge ☐ 16

Scrape stock smooth with skew ☐ 17

Cut cove with gouge ☐ 18

Cut bead with skew ☐ 19

Size stock with parting tool ☐ 20

Sand stock in lathe ☐ 21

Turn duplicate parts ☐ 22

Mount stock on face plate ☐ 23

Size stock on face plate ☐ 24

Hollow out stock on face plate ☐ 25

Make and use a hollow chuck ☐ 26

Make edge glue joints ☐ 27

Construct a drawer with rabbet joint, dado joints ☐ 28

Drill holes with drill press ☐ 29

Assembling

Set brads with nail set ☐ 30

Set screws with counter sink ☐ 31

Mechanical fasteners ☐ 32

Chemical fasteners ☐ 33

Fasten table top to apron ☐ 34

Fit hinges and assemble door ☐ 35

Apply hardware to case ☐ 36

Finishing

Apply filler ☐ 37

Apply oil stain ☐ 38

Apply wax finish ☐ 39

Apply shellac ☐ 40

Apply varnish ☐ 41

Apply enamel ☐ 42

Rub down finish with wet and dry abrasive paper ☐ 43

APPENDIX C

This appendix includes the names and addresses of the leaders from occupational therapy education and medical educaton who reviewed and rate the goals and the basic units of instruction formulated from the findings of the research. This information is presented according to the following plan:

> The names and addresses of leaders from occupational therapy education and medical education who served on the Panel of Consultants.

C.1 – THE NAMES AND ADDRESSES OF LEADERS FROM OCCUPATIONAL THERAPY EDUCATION AND MEDICAL EDUCATION WHO SERVED ON THE PANEL OF CONSULTANTS

PANEL OF CONSULTANTS

Dr. Frank Husted, Associate Dean
State University of New York at Buffalo
School of Health Related Professions
Health Sciences Center
18 Diefendorf Annex
Buffalo, New York 14214

Dr. Joseph N. Schaeffer
Professor and Chairman of Physical Medicine and Rehabilitation
School of Medicine
Wayne State University
Detroit, Michigan 48207

Dr. Thomas Sullivan, Head Psychiatrist
Lafayette Clinic
951 Lafayette
Detroit, Michigan 48207

Dr. Rosalie A. Kiss, O.T.R.
Director of Occupational Therapy Department
Western Michigan University
Kalamazoo, Michigan 49001

Miss Florence S. Cromwell, O.T.R.
President
American Occupational Therapy Association, Inc.
1179 Yocum Street
Pasadena, California 91103

Mr. Lawrence N. Peake, O.T.R.
Chairman, Department of Occupational Therapy
College of Allied Health Professions
Temple University
3525 Germantown Avenue
Philadelphia, Pennsylvania 19122

APPENDIX D

Included in this appendix are the names and addresses of curriculum directors and supervisors of clinical affiliation who rated the goals and basic units of instruction for treatment media courses proposed by the Panel of Consultants.

D.1 – THE NAMES AND ADDRESSES OF CURRICULUM DIRECTORS AND SUPERVISORS OF CLINICAL AFFILIATION WHO SERVED AS MEMBERS OF THE ADVISORY COMMISSION

Eight Supervisors of Clinical Affiliation and Eight Curriculum Directors Who Composed the Advisory Commission

Supervisors from Physical Dysfunction Treatment Centers

Miss Wimberly Edwards, O.T.R.
Director, Occupational Therapy
Monefiore Hospital
210 Street and Brainbridge Avenue
Bronx, New York 10467

Miss Stephanie Presseller, O.T.R.
Jacobi Hospital
Pelham Parkway and Eastchester Road
Bronx, New York 10461

Miss Harriet Schmid, O.T.R.
Director of Occupational Therapy
Mary Free Bed Guild Children's Hospital and
Orthopedic Center
970 Cherry Street, S.E.
Grand Rapids, Michigan 49506

Miss Lyla Spelbring, O.T.R.
University of Michigan
University Hospital
1405 E. Ann
Ann Arbor, Michigan 48104

Supervisors from Psychosocial Dysfunction Treatment Centers

Miss Mary Britton, O.T.R.
Department of Occupational Therapy
St. Louis State Hospital
5400 Arsenal Street
St. Louis, Missouri 63139

Mrs. Vivian Stewart Gill, O.T.R.
Director, Occupational Therapy and
Recreational Therapy
The Ohio State University Hospitals
473 West 12th Avenue
Columbus, Ohio 43210

Mr. John O'Leary, O.T.R.
Chief Occupational Therapist
Veterans Administration Hospital
Palo Alto, California 94304

Miss Maridell Reid, O.T.R.
Chief Occupational Therapist
St. Luke's Hospital and Neuropsychiatric Institute
Mills Avenue and 5th Street
Fargo, North Dakota 58102

Curriculum Directors

Mrs. Frances Herrick, O.T.R.
Director of Occupational Therapy
Eastern Michigan University
Ypsilanti, Michigan 48197

Mr. Cornelius A. Kooiman, O.T.R.
Director
School of Occupational Therapy
Virginia Commonwealth University
901 West Franklin Street
Richmond, Virginia 23220

Mr. Marvin Gilmore Lepley, O.T.R.
Director, Course in Occupational Therapy
College of Medical Sciences
University of Minnesota
Minneapolis, Minnesota 55455

Miss Jennie A. Lucci, O.T.R.
Head, Division of Occupational Therapy
University of Washington
School of Medicine
CC–314 University Hospital
Seattle, Washington 98105

Dr. Leland D. Miller, O.T.R.
Director, Occupational Therapy
University of Kansas
11th and West Campus Road
Lawrence, Kansas 66044

Miss Anne Murany, O.T.R.
Chairman
Occupational Therapy Department
San Jose State College
San Jose, California 95114

Miss Jane Scott, O.T.R.
College of Home Economics
Colorado State University
Ft. Collins, Colorado 80521

Miss Caroline G. Thompson, O.T.R.
Director of Occupational Therapy
University of Wisconsin
1308 West Dayton
Madison, Wisconsin 53706

APPENDIX E

Included in this appendix are tables which are referred to in the narrative of this report.

TABLE 1

TREATMENT MEDIA EXPERIENCE OF THERAPISTS AND TYPE OF TEACHER RESPONSIBLE FOR COURSE

Treatment Media Course	Teacher Responsible for Teaching Course						Number of Therapists	Percentage of Therapists
	Occupational Therapist	Fine Arts	Industrial Arts	Technician[a]	Home Economics	Journalism		
Woodworking	39	9	71	20			139	96.5
Weaving	67	33	5	8	23		136	89.5
Ceramics	19	88	13	9			129	84.6
Drawing & Design	15	97	5	3			120	83.9
Art Metalworking	9	51	21	7			88	61.5
Needlecraft	33	8		5	19		65	45.5
Printing	14	16	26	7		2	65	45.5
Leatherworking	45	8	6	5			65	44.8
Fine Arts (all forms)	1	57		4			62	43.4
Basketry	11	7	2	2			22	15.4
Bench Metalworking	8	4	4	1			17	11.9
Bookbinding	5	8	2	2			17	11.9
Rugmaking	7	4		3	1		15	10.5
Woodcarving	6	2	2	3			13	9.1
Plastics	3		5	2			10	7.7
Minor Crafts[b]	97	13	5	3	2	1	121	84.6

[a] Technician is defined as a skilled craftsman, not associated with a school, college, or university as full-time staff member, but on a part-time basis to teach students the psychomotor skills to work a selected medium.

[b] Minor crafts are those which require a minimum number of tools or equipment; can be completed in a relatively short period of time; and require a limited number of skills. For example, using castable plastic for embeddiments.

TABLE 2

YEARS OF EXPERIENCE IN PROFESSIONAL POSITIONS FOR 143 PARTICIPATING THERAPISTS

Years of Experience	Professional Positions				
	Clinical Practice	Adminis-tration	Supervision	Higher Education	Research
25.5 – 26.5	1				
24.5 – 25.5					
23.5 – 24.5					
22.5 – 23.5	1				
21.5 – 22.5					
20.5 – 21.5	1				
19.5 – 20.5					
18.5 – 19.5	1	1			
17.5 – 18.5					
16.5 – 17.5	1	1	1		
15.5 – 16.5		1			
14.5 – 15.5		1			
13.5 – 14.5	1				
12.5 – 13.5		1			
11.5 – 12.5					
10.5 – 11.5	1	1			
9.5 – 10.5	2	1	1	1	
8.5 – 9.5	1	1			
7.5 – 8.5	6	2			
6.5 – 7.5	11	3	2		
5.5 – 6.5	6	3	4		
4.5 – 5.5	7	1			1
3.5 – 4.5	20	1			
2.5 – 3.5	22	5	[illegible]	1	
1.5 – 2.5	26	4	[illegible]	2	
0.5 – 1.5	25	2	[illegible]	1	
Less than 0.5 year	7				
Total	140[a]	29	24	5	1

N=143

---

[a] Three therapists did not have any clinical practice experience because two accepted administrative positions immediately after registration and one entered occupational therapy research.

TABLE 3

ACTIVITY, TYPE OF DYSFUNCTION, AND SEX OF PATIENT USING ACTIVITY WITH TREATMENT

Activity Used With Treatment	Type of Dysfunction		Total Number of Patients Using Activity	Sex of Patient Using Activity	
	Physical	Psycho - social		Female	Male
Woodworking	49	43	92	16	76
Leatherworking	28	43	71	28	43
Mosaics	14	19	33	20	13
Weaving	15	8	23	17	6
Ceramics	6	17	23	12	11
Knitting	6	14	20	20	
Toy Making	5	12	17	17	
Copper Tooling	8	8	16	4	12
Crayon	2	13	15	8	7
Embroidery	3	12	15	15	
Sewing (Hand)	6	6	12	12	
Typing	8	4	12	8	4
Weave Bag (In and Out)	4	5	9	6	3
Toy Making (Yarn)		6	6	6	
Decoupage	3	3	6	4	2
Slab Stick House	5	1	6	2	4
Crocheting	4		4	4	
Cutouts	1	3	4	4	
Finger Painting		4	4	4	
Furniture Refinishing		4	4		4
Sketching (Pencil)		4	4	1	3
Turkish Knotting	4		4	2	2
Art Metalworking	1	2	3		3
Mechanical Drawing	3		3		3
Metal Enameling		3	3	3	
Oil Painting	2	1	3	1	2
Water Color Painting		3	3	2	1
Braided Rug	1	1	2	2	
Collage		2	2	1	1
Painting by Numbers		2	2	1	1
Pastels		2	2	1	1
Plastics	2		2		2
Printing	2		2		2
Rake Knitting	2		2	2	
Woodcarving	2		2	1	1
Basketry	1		1	1	
Brush and Quill		1	1		1
Charcoal (Sketching)		1	1	1	
Distressed Bottle		1	1		1
Gravel Picture	1		1	1	
Machine Sewing		1	1	1	
Plastic Car Kit	1		1		1
Plastic Filament Flowers		1	1	1	
Plaster of Paris		1	1	1	
Rubber Matting	1		1	1	
Stencilling	1		1		1
Tufted Rug	1		1		1
Woodburning		1	1	1	
Total	192	253	445	233	212

N=445

TABLE 4

ALTERNATE ACTIVITY WHICH COULD HAVE BEEN SUBSTITUTED FOR ACTIVITY USED BY 143 THERAPISTS

Alternate Activity	Type of Dysfunction		Total	Percentage of Patients Assigned Objective
	Physical	Psychosocial		
Leatherworking	28	48	76	17.1
Ceramics	26	40	66	14.8
Weaving	27	23	50	11.2
Needlecraft	10	26	36	8.1
Art Metalworking	11	21	32	7.1
Woodworking	16	15	31	7.0
Fine Arts (all forms)	6	20	26	5.8
Printing	15	9	24	5.4
Rugmaking	15	9	24	5.4
Basketry	8	12	20	4.5
Plastics	7	7	14	3.1
Woodcarving	4	4	8	1.8
Gardening		7	7	1.6
Drawing and Design	3	3	6	1.3
Cooking	3	1	4	.9
Mailroom Activities		4	4	.9
Bench Metalworking	3		3	.7
Bookkeeping	3		3	.7
Metal Enameling	1	1	2	.5
Mosaic	1	1	2	.5
No other at this time	1	1	2	.5
Shorthand	2		2	.5
Clerical Work		1	1	.2
Peg Board from gross to fine grasp	1		1	.2
Writing Activities	1		1	.2
Total	192	253	445	100.0

N=445

TABLE 5

MEDIA MOST FREQUENTLY USED IN PRACTICE

Medium	Dysfunction		Sex of Patient						Total[c]
			Female			Male			
	Physical	Psycho-social	P.D.[a]	Psy.[b]	Total[1]	P.D.[a]	Psy.[b]	Total[2]	
Textiles	51	66	45	60	105	6	6	12	117
Woods	59	52	15	9	24	44	43	87	111
Leather	28	43	3	25	28	25	18	43	71
Paper	19	40	7	25	32	12	15	27	59
Clay	20	37	10	22	32	10	15	25	57
Metals	9	13	3	4	7	6	9	15	22
Plastics	3	1		1	1	3		3	4
Earths	1	1	1	1	2				2
Cane	1		1		1				1
Rubber	1		1		1				1
Total	192	253	86	147	233	106	106	212	445

N=445

P.D.[a] = Physical Dysfunction

Psy.[b] = Psychosocial Dysfunction

Total[c] = Total[1] + Total[2]

A SELECTED BIBLIOGRAPHY

Public Documents

U.S. Bureau of Census. *U.S. Census of Population: 1960. Vol. 1, Characteristics of the Population, pt. 1 United States Summary.* Washington: U.S. Government Printing Office, 1964.

U.S. Bureau of Census. *U.S. Census of Population: 1960. General Social and Economic Characterisitcs, United States Summary.* Final Report PC (1)–1c. Washington: U.S. Government Printing Office, 1962.

U.S. Department of Labor. *Technology and Manpower in the Health Service Industry 1965–75.* Manpower Research Bulletin No. 14. Washington: Manpower Administration, 1967.

Books

American Occupational Therapy Association. *Manual on the Organization and Administration of Occupational Therapy Departments.* Dubuque, Iowa: Wm. C. Brown Book Co., 1951.

American Occupational Therapy Association. *Occupational Therapy Reference Manual for Physicians.* Dubuque, Iowa: Wm. C. Brown Book Co., 1960.

American Occupational Therapy Association. *Occupational Therapy Curriculum Study.* New York: American Occupational Therapy Association, 1963.

American Occupational Therapy Association. *The Registry of the American Occupational Therapy Association.* New York: American Occupational Therapy Association, 1968.

Dixon, Wilfred J., and Massey, Frank J. *Introduction to Statistical Analysis.* New York: McGraw-Hill Publishing Co., 1957.

Dunton, William Rush, Jr. *Prescribing Occupational Therapy.* Springfield, Illinois: Charles C. Thomas, 1947.

Dunton, William Rush, Jr. and Licht, Sidney. *Occupational Therapy Principles and Practices.* Springfield, Illinois: Charles C. Thomas, 1957.

Fryklund, Verne C. *Analysis Technique for Instructors.* Milwaukee: The Bruce Publishing Co., 1965.

Haas, Louis J. *Practical Occupational Therapy.* Milwaukee: The Bruce Publishing Co., 1946.

Krusen, Frank H. *Concepts in Rehabilitation of the Handicapped.* Philadelphia: W.B Saunders Co., 1964.

Rusk, Howard A. *Rehabilitation Medicine, A Textbook on Physical Medicine and Rehabilitation.* St. Louis: The C.V. Mosby Co., 1964.

Silvius, G. Harold, and Bohn, Ralph C. *Organizing Course Materials for Industrial Education.* Bloomington, Illinois: McKnight & McKnight Publishing Co., 1961.

West, Wilma L., ed. *Changing Concepts and Practices in Psychiatric Occupational Therapy.* New York: The American Occupational Therapy Association, 1959.

Articles and Periodicals

Pattison, H.A. "The Trends of Occupational Therapy for the Tuberculous." *Archives of Occupational Therapy,* 1:19, February, 1922.

Unpublished Materials

Jackman, Alan Duane. "Industrial Arts Competencies in Training Occupational Therapists: A Criterion Study of the Industrial Arts Competencies Required by Occupational Therapists with Implications for Curriculum Requirements and Teaching Procedures." Unpublished Ph.D. dissertation, University of Minnesota, 1961.

Thiel, William Donald. "Industrial Arts in Occupational Therapy." Unpublished Ph.D. dissertation, The Ohio State University, 1959.